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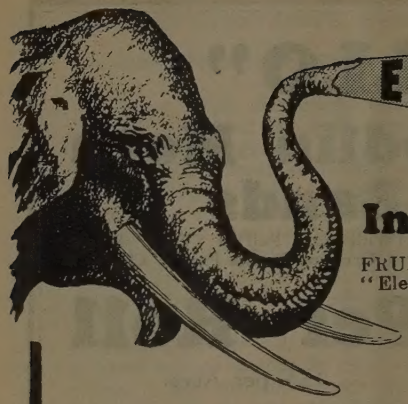

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THE APPLE AND PEAR INDUSTRY.

THE Australian Apple and Pear Council meeting of 1933 will go down to history as the turning point of the industry. Steadily the several States have been perfecting their fresh fruit export organisations with the result that they have now achieved sufficient unity to speak from an all-Australian standpoint. The measure of control which the Council has achieved will be observed in the fact that the Commonwealth Government, after an examination of the Council's bona fides, is prepared to gazette the Council's decision as regards varieties and sizes which can be exported, whilst in co-operation with the shipping companies, the quantities for export have been determined.

Other matters decided upon by the Council, such as case specifications, etc., will also be dealt with by Commonwealth regulations. In short, the Council has been clothed with power to make its decisions binding. The number of varieties of Apples exported has been reduced from 130 to 49. The list of varieties will be found in the report in this issue of the meeting of the Australian Apple and Pear Export Council. The decision on this subject was unanimous. The list can be reviewed annually. Growers wishing to effect any changes in the following season could make their desires known through their State organisations.

The fruit industry is to be congratulated in having created the Australian Apple and Pear Export Council, and credit is due to all who have had a share in building it up. It is democratic. The growers are organised in their individual districts, which merge into State associations, delegates from which attend the Australian Council, and the Council now has power, subject to ministerial sanction, to make its decisions effective. For all practical purposes, the Australian Apple and Pear Export Council is a Control Board.

* * * * *

Concurrently with the organising of the export trade, there is urgent need for effective attention to the marketing of fruit in Australia.

In the export Council the inclusion of the commercial element, has been the means of great strength to the organisation. Why should not the local marketing be organised on similar lines? Imagine an executive consisting of capable representatives of growers and merchants! such an executive would soon clear the markets of the unsuitable fruits that now come forward and only clog the market. Year by year, items appear on the agenda of growers' conferences regarding desired improvements and as no effective action has been taken they have become jocularly known as "hardy annuals." Why should this continue? The industry needs the best and most skilled attention and the required services are available by means of an organisation which it should not be difficult to create.

Most of the improvements sought could be effected by regulation under existing legislation.

Other urgent items could receive adequate attention, such as advertising to increase fruit consumption (Australians do not eat enough fruit), and the utilisation of poorer quality fruit in the manufacture of by-products.

When officially opening the Australian Apple and Pear Export Conference, the Minister for Commerce said:

"Financial assistance from the Government is not the solution of the industry's difficulties—its future is in its own hands. Courage is needed in dealing with some of the problems, and I am sure that this quality will not be lacking."

With foresight and courage, the Australian fresh fruit industry can be put on a firm basis.

BUD VARIATION IN APPLES.

MUCH VALUABLE RESEARCH work on bud selection has been conducted in America. The two prominent workers are Messrs. A. D. Shamel, principal physiologist, and C. S. Pomeroy, associate pomologist, Bureau of Plant Industry, U.S.A., well known for their work in improvement of strains in citrus, Pears, sugar cane, Pineapples and other plants. These scientists are now studying bud variation in Apples. An article on this subject was published in recent issues of the "Journal of Heredity." The authors point out the possibility of improving the commercial quality of some Apple varieties through the isolation and propagation of strains that produce fruits having superior commercial value in one or more characteristics as compared with those of the parent varieties: 173 bud variations are known, some of which are expected to become of commercial importance. It is forecast that subjects of bud selection in Apples will become of greater interest within the next few years than has been the case in the past.

The foregoing points the way for similar work of this character to be conducted in Australia.

Two very important lines of research are—(1) fruit tree stocks, (2) bud selection.

U.K. DECIDUOUS FRUIT IMPORTS.

South Africa's Fruit.

IN a report recently issued by the Empire Marketing Board on "The Demand for South African Deciduous Fruit," it states that Australia has a serious rival in South Africa in supplying Pears and Grapes between the period from January to May. In 1932, Australia supplied the U.K. with 98,176 cwt. of Pears during the period, an amount exceeding a third of her total supplies from overseas and abroad. Australia and New Zealand accounted for 45 per cent. of the total Pear imports, and South Africa for 31 per cent., a figure which shows a considerable increase over previous years. Imports of South African Grapes in 1932 came to 68,000 cwt., twice as many as in 1926. From an investigation made in 1932, it was discovered the popular taste for Peaches, Pears, Plums and Grapes, how far that taste was catered for by South Africa, and the condition of the fruit on arrival in the U.K. It shows how the demand is affected by depression, unemployment, sickness and the like in different districts.

The enquiry was mainly concerned with South African Peaches, Plums, Pears and Grapes. Imports from South Africa arrive at a time (December-May) when the supply position is favorable, especially for Peaches and Plums; Pears are subjected to competition from Australia and N.Z., Grapes from Australia, and both from foreign countries. South African Pears constitute less than a third of the imports from January to May. The demand for black Grapes among the poor was a striking feature. The report gives details of distribution, sales and prices of fruit in the retail trade, together with helpful information as to the most popular varieties.

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SILBERT SHARP & BISHOP LTD., Rundle Street, Adelaide, South Australia

DAMAGED APPLE CARGO.

Fruit Importers Win Test Case.

Cabled advice from London on November 29 states that the Admiralty Divisional Court has dismissed with costs the While Star Lines appeal against the decision of the Hull County Court in May, on a claim for damages in regard to a cargo of Apples brought by the s.s. "Hobsons Bay" in 1931.

At the recent Australian Apple and Pear Export Council meeting in Sydney, references were made to this appeal, which was then pending.

In May last the Hull County Court gave judgment in favor of White and Sons on their claim in respect of damaged Apples brought by the s.s. "Hobsons Bay" in 1931.

The defending company pleaded "inherent vice" in the Apples. The Judge found that the fruit was sound when shipped, and that it was carried at an uneven temperature, constituting failure to exercise due care in the custody of a cargo.

It was against this decision that the White Star Line appealed, but the appeal was not upheld, and the verdict remains with Messrs. White and Sons.

CANNED FRUITS INDUSTRY.

Serious Conditions Confronting Growers and Canners.

The annual report of the Fruit Industry Sugar Concession Committee was presented to the House of Representatives on November 27. The report points out the fall in Australian domestic consumption, and that low prices are prevailing in U.K. owing to severe Californian competition, assisted by the depreciation of the American dollar.

The losses on exports are greater than the Committee can hope to bear from its funds on the basis of current prices for fresh fruit, including Apricots, Peaches, Pears, Pineapples and berry fruits. Continuing, the report states:—

"If prevailing unsatisfactory marketing conditions are maintained, it is clear that the fresh fruitgrowing industry cannot continue to enjoy the prices of recent years, and have practically all surplus production processed and sold. The situation is so serious that if the United Kingdom prices do not substantially increase, industry must face the facts frankly, and readjust itself in prices or volume of output, or both to meet a situation which can only be partly relieved by the Committee. Careful consideration should be given to the necessity for keeping the production of fresh fruit within safe limits."

The Committee emphasises that the minimum prices fixed for 1932-33 should not be recognised by fruitgrowers or manufacturers as indicative for the price which should be determined for a future season.

It is further stated that the experiment undertaken last year of fixing a special factory price for Victorian Strawberries and Loganberries, because of the high cost of production in Victoria, has failed, and has shown that it is inexpedient to fix higher prices for berry fruits in Victoria than elsewhere. Shipments of Victorian Strawberry jam to the United Kingdom has been most unprofitable.

The financial statement shows that of the Committee's fund of £347,344 for the year, £98,880 were used on the ordinary domestic sugar rebate for canning and jam-making. £40,417 were used for the export sugar rebate, £21,199 for a special domestic sugar rebate, £6,317 for canned fruits' export assistance, £14,045 for canned Pineapple export assistance, and £3,043 for jam export assistance.

Mr. Frank T. Pullar, Ardmona, has written to the Prime Minister, urging the seriousness of this matter, and urging the Government to give instructions to the Canned Fruit Board in London to clear the accumulated stocks of canned fruits at the best price offering. Otherwise there can be no hope for fruitgrowers to effectively dispose of their canning fruits to manufacturers in the coming season.

The result would be that huge quantities of fruit will glut the local fresh fruit market and thus seriously affect growers of all fresh fruit. Mr. Pullar entirely disagrees with the policy of the Government in sponsoring Control Boards with large powers for restricting sales abroad.

PERSONAL.

Mr. J. M. Ward, Superintendent of Horticulture, Victoria, accompanied by Mr. J. A. Parkes, Secretary Federal Citrus Council, visited New Zealand at the end of November. Mr. P. S. Macdermott (Sydney City Markets) also visited New Zealand at the same time.

Congratulations to Mr. H. Bishop on being again appointed chairman of the South Australian Fruit Marketing Association. Mr. Bishop is the "first and only" president so far, and his services are widely esteemed.

Mr. Jas. W. Bailey, of Narre Warren, Vic., was cordially congratulated at the Apple and Pear Export Council for his services as chairman of the Thrips Investigation League and chairman of the Research Committee, Victorian Fruit Marketing Association.

Mr. L. R. MacGregor, Australian Trade Commissioner in Canada, will be shortly visiting Australia. He will leave America by the s.s. "Makura, on December 20, due to arrive Sydney on January 19, 1934. According to the present programme he will leave Australia on the return voyage to Canada about the end of February, 1934. Those desiring appointment with Mr. MacGregor are asked to notify the Secretary, Dept. of Commerce, Collins-street, Melbourne.

COMMERCIAL INQUIRIES.

The following commercial inquiries have been received by the Department of Commerce. No responsibility is accepted as to the standing of inquirers, with whom firms interested are requested to communicate direct. References accompany those inquiries marked (a), and interested firms will be supplied, in confidence, with information as to the general standing of inquirers on application to the Department of Commerce, A.M.P. Chambers, 419 Collins street, Melbourne.

1. (a) Mr. BASIL MOSTYN, Fruit Broker, of 18 Suffolk street, Liverpool, England, desires to get in touch with Australian exporters of fresh fruits, eggs, mutton, lamb and pork.

2. (a) THE SELECTA MARKETING CO., of 3 Tower Hill, London, E.C.3, desires to make contact with Australian exporters of canned fruits.

3. (a) Messrs. BARBASH & CO., 218 Szechuen road, Shanghai, desire to get in touch with Australian exporters of butter, cheese, canned meats, canned milk, jams, and other foodstuffs.

4. Mr. M. MADIONA, C/o Mr. Joseph Zammit, of 8 Strada S. Paolo, Valletta, Malta, desires to get in touch with Australian dried fruit exporters.

—RESULT FROM GOOD SPRAYING

More and more fruit growers are proving that the best oil for summer spraying is Gargoyle WHITE Spraying Oil.

Scientifically made from a highly-refined medicinal oil base, it controls scale and other pests, and its application is very beneficial to leaves and bark. Gargoyle WHITE Spraying Oil improves the trees, the fruit, the prices!

Gargoyle WHITE Spraying Oil

Made in Australia.

Fruit Crop Prospects.

BIG APPLE CROP IN S. TASMANIA.

Pears Light.

Re crop prospects of Apples and Pears, in my opinion the following estimate will be somewhere near the mark, taking last season as the basis of my estimate:—S.T.P., 180 per cent.; Cleo., 150; S.P.M., 80; Jon., 130; A.P.M., 130; F.C., 70; Dem., 100; S.P., 150.

You will appreciate the point that it is very difficult to form a very reliable estimate at this time of year as so many factors have to be taken into consideration, but in my opinion crops are generally about 20 per cent. above last year, this opinion I may say is not the general one here as many growers consider that the crops are lighter than last year.

Pears are very light, all varieties are lighter than they have been for years with the possible exception of Williams, which are very fair.

The orchards generally are looking very well, and so far the fruit is very clean and promises to be of very good quality, but rain is badly needed and unless we have a good downpour soon, the crops may be seriously affected.

Items of interest seem to be conspicuous by their absence, the main item is the result of the conference that has just concluded business in Sydney, the elimination of the "plain" grade meets with general approval here, but unless there was a printer's error in the local papers the proposed restrictions of sizes of some varieties will come in for some comment, but I will not deal with this subject until I have more detailed information.—Thos. A. Frankcomb, Ranelagh, 19/11/33.

[From many enquiries received, it is evident that a printer's error occured in several newspapers as regards sizes for export in 1934. Full details are given in the report in this issue of the Australian Apple and Pear Council meeting.—Ed. "F.W."]

TASMANIA.

Winkleigh.—Mr. Neil Campbell, M.H.A., of Winkleigh, W. Tamar, Northern Tasmania, states under date November 25, that present indications in this district point to a good crop of all varieties of Apples. Pears appear to be light.

Huonville, 20/11/33.—The crop in the district (Judbury) is very good this year, every variety excepting perhaps Democrats is heavy, and I think most of Democrats will be almost heavy enough. Pears are light, I should think somewhere about a 60 per cent. crop.—D. F. Calvert.

VICTORIA.

Harcourt.—Main fruits grown:—

Apples: Dunns, Jonathan, Cleo., Romes, Delicious, Stone Pippin, London P., Rymer.

Pears: Williams, Winter Nelis, Josephine, B. Bosc, Packham.

Plums.—All English varieties.

Crop Prospects.—Apples: Jonathan, good, other varieties, patchy, 25 per cent. crop.

Pears.—All varieties good, 75 per cent. crop.

Plums.—50 per cent. crop.

Much damage was done last week, in the orchards at North Harcourt by hail.—Jas. H. Lang.

Somerville (20/11/33).—Most varieties of Apples promise a full crop. Pears are showing a little black spot in some orchards. Plums and Apricots are from medium to good crops.—W. P. Hutchinson.

Pakenham.—In the Gippsland district, Apple crops are somewhat patchy, but on the whole the crop is substantial. The fruit is clean, and at the present stage is forward, and is sizing rapidly. It is thought there will be plenty of three-inch Jonathans; under the new regulations, this size cannot be exported.

SOUTH AUSTRALIA.

Big Apple Crop Expected.

The general manager of the Government Produce Department (Mr. G. A. W. Pope) stated to-day that the Trade Commissioner had already completed the sale of 30,000 cases of Apples to a Stockholm buyer, and was now finalising arrangements for a further 30,000 cases. The first 30,000 cases must be shipped about March 3 so that the Apples may be landed before the end of April. This is an important factor as it is understood that an import duty of 2/3 a case will be placed on imported Apples by the Swedish Government as from May 1.

The Apples have been sold on c.i.f. and e. terms, but at the present rate of exchange this will work out at 8/- for Cleos. and Dunns, and 7/- case for Jonathans and Rome Beauties, f.o.b., Port Adelaide.

The Department invites all growers who so desire, to participate in this order, but it means that the Apples must be picked, packed and forwarded to Port Adelaide in the last week in February.

The Trade Commissioner reports that buyers are very cautious this season owing to losses sustained last year, and it is therefore very difficult to interest them in forward business. The general opinion, however, is that our standard grade South Australian Apples should realise somewhere between 6/3 and 7/6 f.o.b. Port Adelaide according to variety.

Restrictions.—The proposed restrictions as regards the elimination from export of some varieties and the plain grade and three inch Apples will not greatly inconvenience our growers, but their attention is very specially drawn to the expected limitations of the total quantity that may be shipped from Australia.

The Crop.—The present indications are that there will be a really good harvest of Apples, notwithstanding that the frost practically stripped many orchards and there will probably be at least 600,000 cases available for export.

On the other hand, it is expected that the South Australian quota will only be in the vicinity of 520,000 cases, and therefore every grower is recommended to immediately take steps to advise his shipping agent of his freight requirements to ensure that he will obtain his fair share of the quota.

24/11/33.

Basket Range, South Australia.—Basket Range, the home of the finest Cherries grown in Australia, is in a happy position this year regarding crops of all kinds of fruit grown. The Cherry crop, which is the most important, is good. Early varieties, especially Black Tar-

tarian, are heavy. Canning varieties, Twyford, Napoleon and Florence, are carrying full crops. Margarets are patchy, but as this variety has been substituted by better cropping late black varieties, their failure will not be so noticeable.

Apples have set well, Jonathans and Romes being the main varieties.

Plums and Nectarines are also heavy. We were fortunate in escaping damage from the disastrous frost of a fortnight ago. The continued dry weather has hindered cultural operations, but the trees are everywhere in wonderful heart. Cool, dewy nights are compensating for the absence of rain, and so far fungus diseases are conspicuous by their absence.

Were the marketing prospects as bright as the harvest's promise this district would be a veritable Garden of Eden.—W. J. Bishop.

Mr. D. W. Hannaford, of the Cudlee Creek Co-op. Society Ltd., exporters of "Digger" brand fruit, reports that the indications for the Apple crop in the Cudlee Creek district are that the 1934 crop will be equal to that of 1932. Frosts caught some of the orchards and took the crops, but otherwise the crop is heavy and expected to reach the 1932 figure for the district, which was a good one.

WESTERN AUSTRALIA.

A good crop of Apples has set in West Australia. It is estimated that there will be a crop of 750,000 cases of Apples available for export.

The West Australian delegates to the Australian Apple and Pear Export Council acquitted themselves well in all the debates. These were Messrs. H. Lake and A. T. Booth, representing the growers, and Messrs. R. M. Carter and F. Simper, representing the exporters. Mr. G. Wickens (W.A. Superintendent of Horticulture) was helpful in committee work.

QUEENSLAND.

The Summit.—Crop prospect in the Summit district:—

Apricots.—Newcastle, Tilton, Trevatt, Early and Late Moorepark—crop heavy.

Peaches.—Very few grown—crop medium.

Jap. Plums.—Wilson Santa Rosa, Shiro, Formosa, Narrabeen—crop good.

Pears.—Williams, Clapp's, Packhams, Bosc—some blocks good, others washout.

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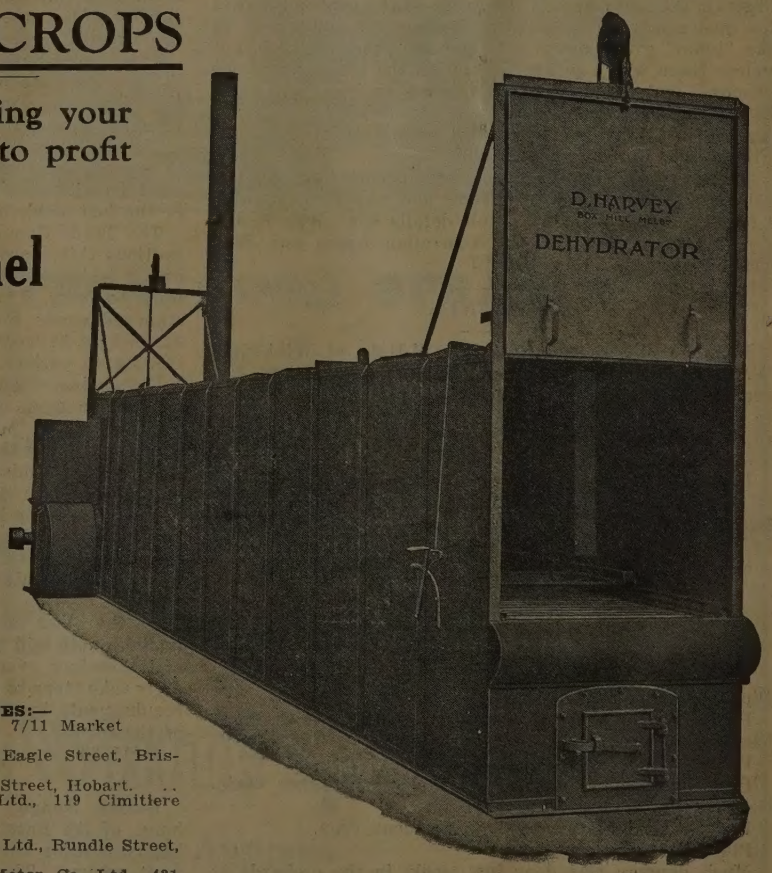

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Tasmania.—Max Geeves Pty. Ltd., Davey Street, Hobart.

,, Clements and Marshall Pty. Ltd., 119 Cimitiere Street, Launceston.

,, Harry Murray, Devonport.

South Australia.—Silbert, Sharp & Bishop Ltd., Rundle Street, East, Adelaide.

Western Australia. — Skipper, Bailey Motor Co. Ltd., 431 Murray Street, Perth.

Apples.—Granny Smith, Jonathans and King Davids—good to heavy. Gravenstein, McIntosh Red—light to good. Delicious, Tasma—very light. Lalla—grafts and young trees, are carrying good even crop—trees growing strongly.

Export.—It was agreed at Apple Conference held in Stanthorpe in October last, to levy all Apples marketed from The Granite Area, 1d. per case. The C.O.D. to pay a bonus of 1/- per case to all growers who export Apples on consignment; also that 20 per cent. of the Jonathan crop be exported. If possible on boat loading Brisbane about 7/2/34.

Plantings.—Apples are still being planted, some good areas going in—mostly Granny's on root grafts.—A. H. Paget.

Stanthorpe (18/11/33).—Stanthorpe grows all the leading varieties of pip and stone fruits to perfection, and is well supplied with young trees coming along.

Present indications point to another big crop of fruit, not as big as last year, it being an abnormal season, and we got a little bit of trouble for the first time for years.

Big Wilson Plums that were over cropped last season are light, also a few English varieties shy from the same reason.

Some of the Peaches are light, but for all that there is a big crop of fruit and the ground has just had a good soaking and all trees have had a great kick off and are refurnishing well.

We are at present booking up Apple space with the C.O.D. for overseas shipments in an endeavor to stabilise our industry.

This district knew nothing about the depression till last season, when we found most of our markets overloaded.—H. M. Jones.

Leeton, 22/11/33.—Fruit prospects are as follows:

Apricots, heavy (better than last year).

Peaches.—Pullar's good, about the same as last year; Queen's, heavy; Sims, fair, lighter than last year; Peak's fair; Phillips, light.

Apples, light; Jonathans very light; Rome Beauty, half a crop; Granny Smith, 40 to 50 per cent. below last year.

Pears.—Williams, 30 per cent. below normal; Packhams, light.

Prunes, mostly light, about half a normal crop.

Sultanas and Currants promise good crop; Cornichons and other table varieties fair.—F. Attenborough.

CORRUGATED STRAWBOARDS.

To Be Manufactured in Melbourne.

Advice is to hand that Paper Products Ltd., have decided to instal a corrugated and solid paper container plant in Melbourne. The company has taken a lease of factory premises in South Melbourne, and is going ahead immediately with the necessary building alterations.

The firm hopes to have the erection completed by the end of the year and to be in a position to supply requirements by January 1. The Melbourne representative is Mr. Wallace H. Tulloch, 440 Little Collins-street, Melbourne.

The increase in depredations by the light brown Apple moth is causing River Murray growers to consider the use of arsenical sprays.

NEW ZEALAND FRUIT CROP PROSPECTS.

The Director of the Horticultural Division (Mr. J. A. Campbell) has received the following reports from his officers regarding orchard and marketing conditions at the end of October, 1933:—

Auckland. — Apples: Heavy blooming. Lemons and Plums: Prospects good. Nectarines: Light setting. Oranges: Looking well for summer crop. Peaches: Medium to heavy. Pears: Heavy. Strawberries: Crop variable.—(L. Paynter.)

Gisborne.—Apples: Heavy setting. Apricots: Short. Gooseberries: Average crop. Lemons: Average summer crop developing. Nectarines, Peaches, Pears and Plums: Heavy. Oranges: Heavy blossoming. Raspberries: Average crop promising. Strawberries: Heavy.—(P. Everett.)

Hastings.—Apples: Heavy blossoming. Nectarines: Heavy crop; considerable frost injury in some localities. Peaches: Heavy crop. Pears: Heavy crop all varieties. Plums: Good blossoming.—(N. J. Adamson.)

Palmerston North.—Apples and Pears: Heavy. Apricots, Nectarines and Peaches: Light. Cherries: Light to medium. Gooseberries: Heavy. Plums: Very patchy. Raspberries and Strawberries: Promise well.—(J. W. Whelan.)

Masterton.—Apples: Average. Apricots: Short crop. Cherries: Average to light. Gooseberries: Light. Nectarines and Plums: Short. Pears, Raspberries, Strawberries and Walnuts: Average. Peaches: Short.—(H. F. Frost.)

Nelson.—Apples: Good blossoming, fruit setting well; Dunn's fairly light. Apricots: Fair. Cherries and Raspberries: Average. Gooseberries: Average. Nectarines: Heavy blossoming; fair set. Peaches: Heavy. Pears: Medium to heavy. Plums: Average. Strawberries: Fair.

Heavy frost on October 23 was responsible for very severe damage to fruit crops in the Stoke district, extending to the outskirts of Richmond, stone fruits, Pears and Apples all suffering. The loss will approximate 50,000 cases. The hill country was not affected. Good rain needed for bush and berry fruits.—(J. H. Thorp.)

Nelson Central.—Apples: Heavy. Pears: Good setting. Strawberries: Good.—(M. Davey.)

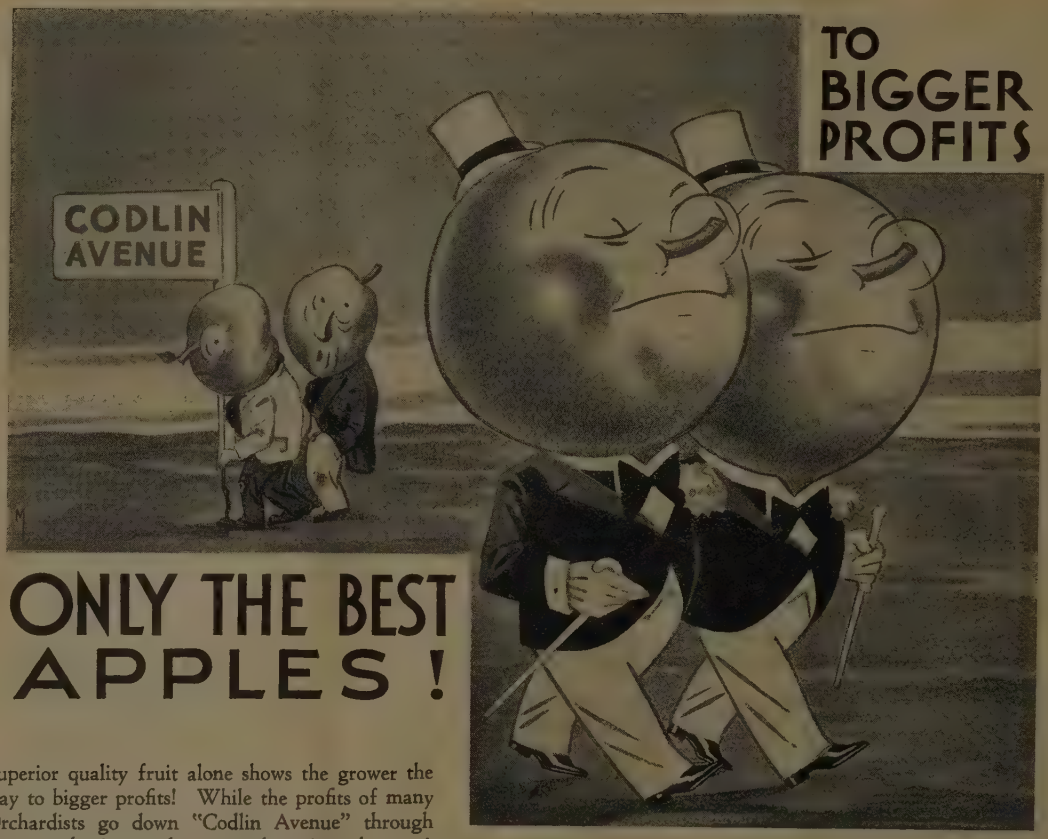
Motueka.—Apples: Heavy blossoming; good set. Apricots: Average. Cherries: Set well. Gooseberries: Average. Nectarines: Average. Peaches: Loss in places through frost; otherwise good. Pears: Good setting. Plums: Patchy. Raspberries: Good crop. Strawberries: Good.—(G. Stratford.)

Blenheim. — Apples: Average. Dunn's generally very light. Apricots: Light. Cherries, Nectarines and Raspberries: Fair to average. Gooseberries: Average. Lemons: Average. Peaches: Average to heavy. Pears: Average. Plums: Light to average. Strawberries: Good setting, but loss through frost injury.—(D. J. Hogg.)

Christchurch.—Apples and Pears: Heavy. Apricots and Walnuts: Average. Cherries, Gooseberries, Nectarines and Peaches: Medium to heavy. Plums: Medium to heavy. Plums (Japanese): Average. Raspberries: Average. Strawberries: Medium to light.—(B. G. Goodwin.)

Dunedin. — Apples: Light. Apricots: Nectarines and Peaches: Light. Cherries, Gooseberries, Pears, Plums and Walnuts: Average. Raspberries and Strawberries: Good. All fruits injured by frosts, and crops reduced.—(G. H. McIndoe.)

Alexandra.—Owing to frost damage, very short crop.—(W. R. L. Williams.)



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The Use of Chemically Treated Corrugated Bands as a Supplementary Control for Codlin Moth.

Extracts from the Report of Experiments Carried out at State Orchard, Blackwood, S.A.

(By R. Fowler, Manager Government Experimental Orchard, Blackwood.)

CHEMICALLY TREATED CODLIN moth bands are available which are claimed to be as nearly perfect for the purpose as they can be made. Supplies of these bands have been manufactured and made available in Australia, and the Department of Agriculture took steps last season to obtain 100 ft. of the material for testing purposes at the State Experimental Orchard, at Blackwood.

The material came to hand in late December, and the bands were applied to the trees on December 23; 100 ft. of the material proved sufficient to bandage 50 average sized trees. The trunks of the trees to be bandaged were carefully scraped, all rough bark, etc., being carefully removed, so that fewer hiding places would be left for the codlin grubs. The bands were adjusted as firmly as possible with the special clips provided. As the bands are prepared of corrugated cardboard which is rather easily torn, care had to be exercised when attempting to fit the bandage snugly to the tree. It is also necessary to see that as little of the chemical coating as possible is lost when handling the bandage.

In order to ascertain the movements of the grubs and to check the possibility of them passing unharmed over the chemical bands, an ordinary bag bandage was applied some inches above the treated bands on the assumption that most of the grubs, after leaving the fruit, would reach the ground and crawl back to the tree for the purpose of finding a dark protected place in which to spin their cocoons. Whether all the grubs would behave in this manner is not certain, and it is quite possible that some of them, after leaving the fruit, might alight on a large limb and crawl down to the trunk to find shelter. Later in the season, when the grubs are leaving the more mature fruits, it is probable that a large proportion of them will fall to the ground while still in the fruit, as it is well known that Apples, when badly damaged by codlin grubs, fall prematurely. To gain further information on this point later in the season, ordinary bandages were applied above and below a limited number of chemical bands, and records were made of the grubs caught. Records were also kept of the grubs caught in ordinary bandages placed on trees on which no chemically treated bands were used. The data collected is shown in Table I.

It will be noticed that up to the final inspection on June 6, many more grubs were recorded from the ordinary bandages than from the chemically treated bands—714 as against 197—and this seemed to suggest that either the grubs were passing over the treated bands without injury or were moving downwards from the branches. It was not possible at this time to record the grubs which sought to spin their cocoons in the inner channels of the

Table 1.—Data Relative to Codlin Moth Trapping Tests with Chemically Treated and Other Bandages, Blackwood, Season 1932-33.

50 Chemical and 50 Ordinary Bag Bandages.

						Test with 3 Bandages in each of 6 Trees.			
Date of Examination.	Grubs Caught in Bag Bandage Over Chemical Bandage.	Date Examined.	Grubs Caught in Chemical Bandage.	Date of Examination.	Grubs Caught in Single Bag Bandage.	Date Examined.	Top Bag Bandage.	Middle Chemical Bandage.	Bottom Bag Bandage.
6/1/33	26	6/1/33	9	—	—	6/6/33	36	12	39
13/1/33	72	—	—	—	—	—	—	†54	—
23/1/33	92	26/1/33	41	—	—	—	—	—	—
30/1/33	40	—	—	30/1/33	16	—	—	—	—
6/2/33	55	—	—	6/2/33	27	—	—	—	—
13/2/33	61	13/2/33	45	13/2/33	18	—	—	—	—
20/2/33	107	20/2/33	43	20/2/33	12	—	—	—	—
28/2/33	119	28/2/33	43	—	—	—	—	—	—
16/3/33	121	—	—	16/3/33	60	—	—	—	—
27/3/33	21	27/3/33	16	27/3/33	5	—	—	—	—
6/6/33	80	*6/6/33	513	6/6/33	118	—	—	—	—
	794		710		256	—	—	—	—

Total grubs caught in 50 chemical bandages, 764.

Total grubs caught in 50 bag bandages, 869.

*Chemical bandages were subsequently examined after being torn apart, when 138 live and 375 dead grubs were counted.

†Chemical bandages, when subsequently torn apart and examined, contained 54 live grubs, some of which had probably been in the bandage some time.

corrugated card boards. When the bands were finally torn apart it was found that quite a number had harbored in the inner folds; the final examination revealed a count of only 80 grubs in the ordinary bandage and 513 in the chemical bands. From the dried up condition of the grubs found in the inner folds I think it is safe to assume that the catch represented the full number of grubs that had entered the bandages during the season.

From the data collected and shown in Table I., it would seem that the chemical bands are, roughly, 50 per cent. efficient, that is to say, that of the total number of grubs moving about in the tree half of them will be trapped and killed by the bands. In an orchard heavily infested with codlin this would represent a considerable number of grubs, and, as the effect would be cumulative, the bands should materially assist in reducing the codlin moth population in the orchard.

The chemically treated bands will not do away with the necessity for spray measures, but as they will automatically kill practically all of the codlin moth larvae that remain in contact with them, they should materially help in the control of codlin in the orchard, particularly where the practice of applying and examining regularly the usual bag bandage is not carried out.

It would seem advisable to use the chemical bands only on well developed trees with mature rough bark, as it

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"Black Leaf 40" is recommended for killing wooly aphis, apple aphis, peach aphis, aphis on roses, other flowers and vegetables, mussel scale (young), Harlequin fruit bug, holy or cross bug, oleander scale (young), San Jose scale (young), red scale (young), red mites (Summer), rutherglen bug, pear and cherry slug, thrip, fine scale (young), pea mite.

In the Poultry Yard

Paint the roosts lightly with "Black Leaf 40" just before the birds go to roost. Body-lice will be destroyed while the flock roosts. To help prevent mites from attacking fowls, tie or tack a piece of heavy cloth around ends of roosts and roost supports and saturate with "Black Leaf 40;" spray inside of house with "Black Leaf 40," three tablespoonsful to a gallon of water to which soap has been added.

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"Black Leaf 40" has a dual action. It kills plant insects both by fumes and by contact. This double-killing action makes "Black Leaf 40" unusually effective in insect control.

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Poultrymen find that if they paint the roosts lightly with "Black Leaf 40" the lice on the birds are killed. The heat from the birds' bodies releases fumes which destroy lice, as the flock roosts on perches.

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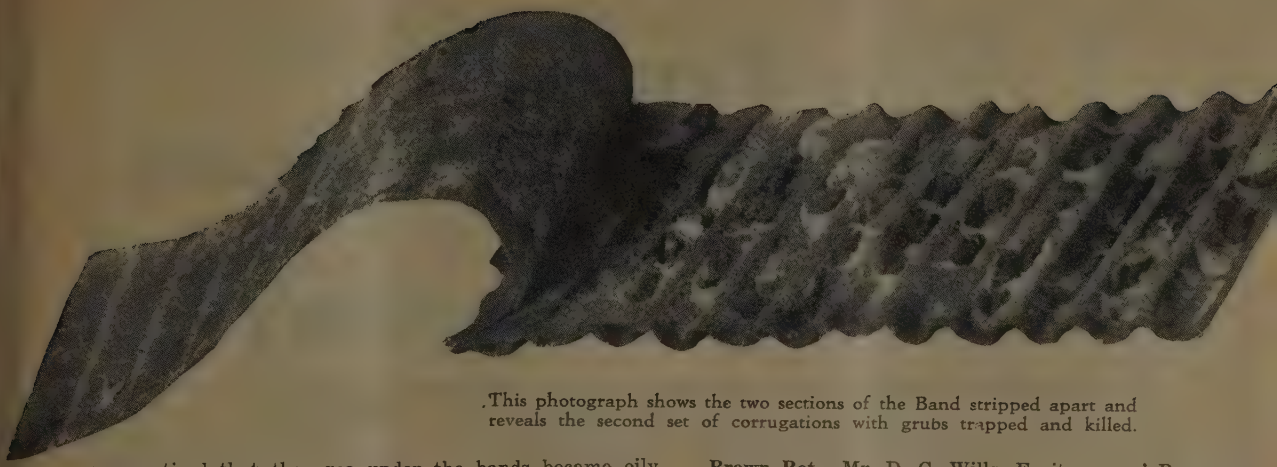

This photograph shows the two sections of the Band stripped apart and reveals the second set of corrugations with grubs trapped and killed.

was noticed that the area under the bands became oily and somewhat dark colored, but apparently no injury has resulted so far. If used in successive seasons on the same tree, it would probably be wise to apply the bands in a different position each year.

It was also noted that bands taken from trees affected with woolly aphis contained thousands of dead aphides, evidently caught while migrating to the roots for the winter. From the results, therefore, of one season's tests it would seem that the chemical bands have given fairly good results, and the experiment is worth further trial.—("Journal of Agriculture," S.A.)

CODLIN MOTH BANDS.

For the tests with bands to catch and destroy codlin moth larvae, conducted by the Victorian and South Australian Departments of Agriculture, the bands were supplied by courtesy of Messrs. Victor Leggo and Farmers Ltd., Queen-street, Melbourne.

Considerable appreciation has been expressed by fruitgrowers throughout Australia for the pioneering work accomplished by Victor Leggo & Farmers Ltd., in the manufacture of chemical tree bands for destroying codlin moth larvae.

The illustration on this page is an actual photo. of a Vallo patent codlin moth tree band in which were 120 dead grubs in an 8 in. section. Each band is actually a double trap as it not only traps the grubs in the corrugations lying immediately next to the trunk, but a similar number are trapped and killed in the second series of small passages which are formed by the smooth section of the band against the corrugated section. The photo. on this page shows the inner section of the tree band with the dead grubs in the second set of corrugations. On the assumption that only 50 per cent. of the eggs are fertile, a kill of 100 grubs in one tree band is responsible for the prevention of 2,000 moths in the first year.

Irymple (17/11/33).—The main fruits grown are Currants, Sultanas and Lexias. Crop prospects are good and indications are that the Currant crop will be heavier than last year; Sultanas probably 20 per cent. down on last year and Lexias equal to last year.—P. Malloch, Irymple Packing Co.

Brown Rot.—Mr. D. G. Wills, Fruitgrowers' Representative, of Sydney, recently told the Shepparton Irrigators' Association that the last fruit season was the worst in his experience. Brown rot had rendered the fruit unsaleable. Pears had been free of this, but much of the fruit was of poor quality, and the canneries had received the best fruit. He doubted whether the expense of precooling fruit was justified. The association decided to remunerate Mr. Wills as follows:—One penny a case to be paid on 200,000 cases, if between that number and 300,000 were forwarded ¾d., and if over the latter quantity a charge of ¾d. be made on the total quantity.

Oranges ex "Buteshire."—Owing to the long voyage of the steamer "Buteshire" from Australia (52 days), Oranges landed in London on October 28, were unfit for sale. The representatives of the vessel stated recently that it was seldom Australian Oranges could be landed in good condition in London. The "Buteshire" made a good run to Durban, but cyclonic weather until she reached Las Palmas delayed her passage.

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Gas Storage: A Review of the Present Position.

(By Franklin Kidd, M.A. D.Sc.)

A Paper read before the North-West Branch of the British Association of Refrigeration on February 14, 1933.

Introduction.

GAS-STORAGE is the name now given to any form of storage in which regulation and control of the composition of the atmosphere are carried out. The growing application of gas-storage to-day is due to the recognition of the fact that, in addition to temperature control, atmospheric control is the next most powerful agency at our command for the preservation of fresh foods during storage and transport.

That cold was a powerful agent for the preservation of fresh food must, I think, have been one of the earliest observations of primitive man. It was not, however, till the modern era of applied science produced, amongst a multitude of other inventions, that of mechanical refrigeration, that widespread application of this knowledge was made.

The development of cold storage is an affair which has occupied the last fifty years, and progress is still being made. To this development, thousands of inventors, engineers, and biologists have contributed; and research stations and experimental equipment to the value of millions.

What, then, is the present position with regard to gas-storage? We may, I think, state it thus: with regard to gas-storage we stand to-day just about where we stood fifty or more years ago in regard to cold storage—that is to say, at the very beginning. The broad principle has been established clearly and without question—namely, that gas-storage with temperature control is the most powerful agent in fresh food preservation—but almost everything in the way of detailed application has yet to be worked out. To mention but a few of the most obvious things: machinery for maintaining and regulating atmosphere, construction of gas-tight chambers, types of atmosphere best suited to various products at various times, the best temperatures to employ in conjunction with gas-storage. The full development of the inherent possibilities of gas-storage will take many years.

Gas-Storage of Apples.

(1) Without Temperature Control.

At the outset of the work on fruit preservation by atmosphere-control, the dominating idea was that atmosphere control might prove effective in the absence of temperature control and thus serve as an alternative method to the use of cold storage. This, as you will see, was wrong.

It was also realised that different products would differ in their reaction to atmosphere control, and it was decided to confine investigation in the first place to one kind of fruit, namely, the Apple. Every year only one set of Apple storage experiments can be carried out, and hence progress was slow.

It was soon found that at room temperature a few Apples in a glass vessel kept very much better in atmosphere rich in carbon dioxide and poor in oxygen, than corresponding fruit kept in ordinary air. Ripening processes were retarded and fungal rotting delayed. At the same time it was observed that excess of carbon dioxide at ordinary temperatures caused characteristic types of injury, to one of which the name brownheart was subsequently given.

The Method.

In the course of two or three years the experiments were developed to the scale of a chamber holding about 8 tons, but without temperature control. This chamber was built and loaned for the experiments by Messrs. Chivers & Sons. A simple method of regulating the carbon dioxide and oxygen contents of the atmosphere was worked out. This method is known as **the method of restricted and regulated ventilation.** A gas-tight chamber is used, the vital activity of the fruit is relied upon as the agent for reducing the oxygen concentration and raising the carbon dioxide concentration of the atmosphere in the store, while regulated ventilation with fresh air reverses these effects. With this method, the rise in carbon dioxide is automatically correlated with a similar fall in concentration of oxygen. The method is a rather primitive one and, as we shall see presently, does not in all cases allow us to obtain optimum percentages both of oxygen and of carbon dioxide at the same time.

Scald.

At this stage of the work several facts emerged. The first was that under the conditions of restricted ventilation with fresh air, many varieties tended to scald badly in gas-storage though otherwise well preserved.

Scald is a superficial browning of the skin which greatly disfigures Apples and renders them susceptible to fungal rotting. The Americans had worked out an effective method for the control of scald which was stated to be the greatest cause of wastage in boxed and barrelled Apples in cold storage in the U.S.A. This method was the use of the oiled wrapper—a tissue paper impregnated with odorless mineral oil. The method, until then never used in this country, was adopted with complete success for the control of scald in gas-storage.

The theory of scald is that it is caused by accumulation of volatile products, possibly those responsible for the odor of Apples, and that the oil, by absorbing the toxic volatile excretion, assists the escape of these substances from the Apple.

Self-heating and High Autumn Temperatures.

Another important fact brought to light by these experiments was that in bulk storage, without temperature control, the self-heating of the fruit was a serious factor. During cold weather the average inside temperature in the 8-ton refrigerated gas store was about 5 deg. F. higher than the outside temperature, whilst during warm weather the difference was over 10 deg. F.

It was found that the beneficial effect of the atmosphere control in retarding the ripening was counteracted by warm autumn temperatures in the early days of storage.

An experiment was accordingly made in which refrigeration was used only in the hot weeks of early autumn. A gas-tight chamber of 1 ton capacity was used for this purpose. The temperature inside the store during the autumn was kept down to below 40 deg. F. During the winter refrigeration was not applied. In cold weather the temperature of the store was often as low as 34 deg. F.

The results of these trials were unexpected. Some of the varieties of Apples used were found to be seriously affected by a new type of injury, like that known as

(Continued on Page 687.)

? ? ? ? ? ? ? ? ?

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Australian Apple and Pear Export Council.

THE THIRD ANNUAL MEETING of the Australian Apple and Pear Export Council was held at the Board Room, Royal Agricultural Society, Sydney, from November 15 to 18, 1933.

There were present:—Messrs. J. B. Mills, President; B. J. Pearsall, Vice-President; and other delegates, as follows:—Messrs. H. A. Court, M. Calvert, F. W. Harrison, J. P. Piggott, C. H. Cane, R. N. Smith (Tas.); A. E. Herring, J. W. Blick (N.S.W.); H. Lake, A. T. Booth, R. M. Carter, F. Simper (W.A.); J. B. Randell, H. J. Bishop (S.A.); G. W. Brown, J. W. Bailey, F. R. Mellor (Vic.); W. Ranger (Q'land).

Departmental Officers:—G. Quinn (S.A.), G. Wickens (W.A.), P. H. Thomas, S. H. Grueber (Tas.), J. M. Ward (Vic.), C. G. Savage, H. Broadfoot, and E. D. Butler (N.S.W.); H. Thomson, H. Souter (Dept. of Commerce); I. H. Boas, W. M. Carne and —. Thomas, C.S.I.R.

Messrs. H. G. Colombie (Honorary Adviser), R. E. Boardman (Secretary), also E. E. Herrod (N.S.W.), C. H. Tutton, E. C. Pratt, A. H. Marshall, A. J. Honey (Tas.), A. U. Tonkin, M.L.A., C. Buchele and —. Pitts (Pitts and Lehmann) (N.S.W.); C. J. Parnham (V.).

Official Opening.

The Hon. F. H. Stewart, Minister for Commerce, officially opened the Conference by wireless from Canberra. In his speech the Minister said the losses on exports last season were caused by record crops of Apples in N.S.W. and Victoria, badly regulated arrivals in U.K., and deterioration during transit; unusually large imports of other fruits into U.K. during the Australian season. To assist growers, £125,000 had been provided in the Budget for Apple and Pear growers. The Government had taken up the freight question with ship owners and negotiations were proceeding in London through the High Commissioner. With regard to the quality of the pack, every care was necessary in picking, grading, wrapping, packing, etc., and improvements were possible in refrigerated transport. Australia and N.Z. had a virtual monopoly of the U.K. and Continental markets for Apples from April to July, the Continental market could be greatly extended. A competent representative of the Australian Fresh Fruit Industry in U.K. was needed. Financial assistance from the Government was not a solution of the industry's difficulties, its future was in its own hands, and courage was needed.

A cordial vote of thanks to the Minister was carried on a motion of Messrs. Smith and Mellor.

Mr. Court moved that this Council urges the Federal Government to expedite the distribution of the grant of £125,000 allocated for the assistance of Apple and Pear growers and considers that such assistance should be applied to the 1933 export season and to be made direct to growers in order that they be enabled to remain on their holdings and carry on. Mr. Pearsall seconded—Carried.

As regards the distribution of the £125,000, it was decided on the motion of Messrs. Brown and Court that the Federal Government be asked to go into details with the President, who would then communicate with the other States.

Tasmania Representation.

Letter received from Mr. E. C. Pratt, on behalf of Overseas Brokers and Shipping Representatives' Association (Hobart), applying for membership with the Council. The Chairman gave a summary of the constitution on the subject of affiliation and suggested that, Mr. Pratt's organisation confer with the South Tasmanian Fruit Shipping Agents' Committee re representation. Mr. Pratt agreed to do so.

Apples for France.

Correspondence was read from the Department of Commerce, re importation of Apples into France. Mr. Colombie said a quota system was in force. This was confirmed by a letter from the Department of Commerce stating the French quota for the fourth quarter of 1933, in respect of fresh Apples and Pears was twelve million kilogrammes for all countries, and the proportion for Australia was not known.

Limitation of Apple Export.

Mr. J. P. Piggott produced statistics showing the exports of Apples from Australia and N.Z. to U.K., also the importation of various fruits into U.K. and moved: "That the exports of Apples and Pears from Australia and N.Z. be limited to 5½ million cases to U.K. and Continent for the 1934 season."

The Chairman requested that a Committee be formed to discuss details. Mr. Colombie quoted figures showing huge excess of importations into U.K. of Oranges and Bananas during the season of Australian Apples in England in 1933. The subject was fully discussed; speakers referred to exports from South Africa and Argentine; large increase of Apple production in U.K.; the possibility of the limitation of the importation of foreign fruit into U.K.

Mr. Thomson read extracts from a letter from the Australian High Commissioner in London (Mr. Bruce) urging that Apple exports be limited to 4-4½ million bushels, and that July 31 be the latest date for the receiving of Australian Apples into U.K. Mr. Pratt said that by eliminating "plain" grade and not sending any fruit which had been detained for any cause, there would be an automatic reduction of 20 per cent. Mr. Carter stated by raising the standard of export of Apples, there would be no need to apply the quota system. Mr. Randell said that if the list of exportable varieties were reduced, growers would soon work over the trees to more suitable varieties.

Mr. A. U. Tonking pointed out the urgent need for making plans to deal with the surplus of Apples in Australia which would be caused by limiting export.

Mr. Carter moved that the export of Apples and Pears from Australia and N.Z. be limited for the 1934 season and that a committee be formed immediately to discuss means to this end. Mr. Bishop seconded. Mr. Piggott withdrew his motion in favour of the amendment, which was put to the meeting and carried.

The following committee was appointed: Messrs. Piggott and Pearsall (Tas.), Mills and Brown (Vic.), Herring (N.S.W.), Booth (W.A.), Bishop (S.A.), Ranger (Qld.), with Mr. Colombie as adviser.

Mr. Mills then vacated the chair to attend the Committee meeting, and Mr. Bailey was appointed chairman.

At a subsequent stage of the conference, Mr. Ranger, on behalf of the Committee, reported the findings of the Committee, and moved:

"That 'plain' grade be eliminated for the 1934 season." Seconded Mr. Randell.—Carried.

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"That there be a restriction of sizes exported as follows: Dessert Apples 2¼ in. to 2¾ in.; culinary, 2½ in. to 3 in., and dual purpose 2¼ in. to 3 in."

As a slight variation was desired, Mr. Carter moved that the restriction of sizes of export Apples be approved, such varieties to be considered in detail later.—Carried.

Mr. Ranger moved, Mr. Mellor seconded that the Council appoint a Committee to confer with the O.S.R.A. re shipping facilities. In reply to a question, the Chairman said that State Committees would make their forecasts through their usual channels, and these would be co-ordinated into an Australian programme.

It was decided that the Committee be constituted as follows, to continue the negotiations:—Messrs. Mills and Brown (Vic.), Bishop and Randell (S.A.), Herring and Blick (N.S.W.), Ranger (Qld.), Booth and Carter (W.A.), Pearsall, Court, Piggott, Cane (Tas.).

The varieties and sizes for 1934 export were submitted to the Council, and after discussion, were decided upon as follows: (Motion, Messrs. Bailey and Randell).

(The list was corrected and abbreviations prepared by a Committee of the State Experts, together with Mr. Calvert.)

Dessert Apples (2¼ in. to 2¾ in.).

Adams Pearmain	A.P.M.
Aromatic	ARO.
Cleopatra	CLEO.
Cox's Orange Pippin	C.O.P.
Delicious	DEL.
Dougherty	DHTY.
Gravenstein	GRAV.
Geeveston Fanny	G.F.
King David	K.D.
Lalla	Lalla
Newtown Pippin	NT.P.
Ribston Pippin	R.P.
Scarlets	S.PM.
Shoreland Queen	S.Q.
Rokewood	ROKE.
Sturmer	ST.P.
Stone Pippin	S.P.
Statesman	STN.
Australian Beauty	A.B.

Dessert Apples (2 in. to 2¾ in.).

King Pippin	K.P.
Crofton	CROF.
Jonathan	JON.
Pomme de Niege	P.D.N.
Worcester Pearmain	W.PM.
Yates	YATES

Culinary, 2½ in. to 3 in.

French Crab	F.C.
London Pippin	L.P.
Mobbs Codlin	M.C.
Reinnette du Canada	R.D.C.
Stewarts	S.S.
Schroeder	SCH.

Culinary, 2½ in. to 3¼ in.

Alfriston	ALF.
Prince Alfred	P.A.

Dual Purpose, 2¼ in. to 3 in.

Alexander	ALX.
Crow Egg	C.E.
Duke of Clarence	D.C.
Dunns	DUNNS

AUSTRALIAN APPLE AND PEAR EXPORT COUNCIL CONFERENCE AT SYDNEY, NOVEMBER, 1933.

FRONT ROW.—R. E. Boardman (Secretary), F. W. Harrison (Tasmania), R. M. Carter (W.A.), F. Simper (W.A.), A. J. Honey (Tas.), J. Small (N.S.W.), G. Quinn (N.S.W.), ——, A. E. Herring (N.S.W.).

SECOND ROW.—P. H. Thomas (Tas.), ——, G. Wickens (W.A.), B. J. Pearsall (Tas.), J. B. Mills (President), R. H. Harrowell (N.S.W.), H. G. Colombie (Vic.), G. W. Brown (Vic.), J. P. Piggott (Tas.), F. R. Mellor (Vic.), H. A. Court (Tas.).

THIRD ROW (Standing).— ——, ——, E. E. Herrod (N.S.W.), C. G. Savage (N.S.W.), J. W. Blick (N.S.W.), J. B. Randell (S.A.), C. J. Parnham (Vic.), J. M. Ward (Vic.), H. Bishop (S.A.), J. W Bailey (Vic.), M. Calvert (Tas.), W. M. Carne (C.S.I.R.), S. H. Grueber (Tas.), R. E. Downie (Vic.).

BACK ROW—J. L. Cartmel ("F.W."), ——, C. Buchele (N.S.W.), E. Ray (N.S.W.), Wilson (N.S.W.), H. Broadfoot (N.S.W.), C. H. Tutton (Vic.), C. H. Cane (Tas.), A. T. Booth (W.A.), H. Lake (W.A.), I. H. Boas (C.S.I.R.).

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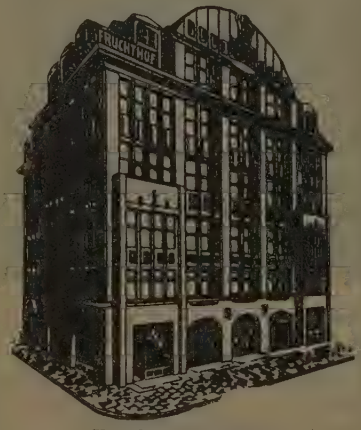

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Rome Beauty .. .. R.B.
Red Rome .. .. R.R.
Nickajack .. .. NJ.
Tasman's Pride .. .. T.P.

Dual Purpose, 2¼ in. to 3¼ in.

Democrat .. .. DEM.

It was decided to recommend to the Department of Commerce that only the varieties and sizes given above be permitted to be exported overseas in 1934, the abbreviations also to be gazetted.

Mr. Harrison objected to the inclusion of Stone Pippin as dessert or dual purpose instead of culinary.

A hearty vote of thanks to the Committee was carried on the motion of Messrs. Carter and Pratt.

Case Standardisation.

Mr. I. H. Boas, Chief of Forest Products Division, Council for Scientific and Industrial Research, stated that a progress report—Bulletin No. 45—on case standardisation had been published by the C.S.I.R. (copies were distributed to delegates). Mr. Boas, stressed the necessity for case standardisation. Control tests had shown that the old type dump case was unsatisfactory, but a slightly wider dump case (18 in. x 9 in. x 14¼ in.) had given results so far superior to the Canadian type case.

Mr. C. H. Tutton stated that the tests conducted by the C.S.I.R. were not commercial as in the actual process of transport and trade, the cases were not subjected to the hazards imposed by the C.S.I.R. The Canadian type case had been adopted by U.S.A., Canada, N.Z., South Africa and several Australian States, it was preferred by buyers in England.

Mr. W. M. Carne (Council for Scientific and Industrial Research) contended that the bulge was the principal cause of the bruising of N.Z. fruit. The recent tests, which were on a scientific basis, showed that the improved dump case, was best.

A cordial vote of thanks was conveyed to Messrs. Boas and Carne.

Timber for Cases.

Mr. Simper moved, Mr. Lake seconded, that in the use of karri and jarrah timber for export fruit cases, this Council recommends that the timber be seasoned so as to contain not more than 20 per cent. of moisture and that the tops, bottoms and ends be uniformly dressed on both sides.—Carried.

It was further decided on the motion of Messrs. Mellor and Bailey that each individual State be recommended to decide which type of case for Apples—whether dump or Canadian standard—is most suitable for its own requirements, and to advise growers in each State to use only the types selected.—Carried.

Specifications for Cases.

A letter was read from the Department of Commerce giving specifications of softwood cases as adopted at the recent conference of Ministers of Agriculture. After full discussion the following resolution was carried:

"That it be a recommendation to the Department of Commerce that timber of the following dimensions be embodied in the regulations governing the export of fresh fruits in standard softwood cases."

Apple Cases.

Internal dimensions: 18 in. x 11½ in. wide x 10½ in. deep.

Two ends each one piece not under 10½ in. by ⅝ in. (two piece ends securely fastened by metal corrugated fasteners permitted).

Two sides, each one-piece not under 10½ in. x 5/16 in. (If sides of two pieces width of each shall not be less than 5¼ in.)

Two tops and bottoms, each pieces not under 5½ in. by 3/16 in.

Four cleats not less than 11 in. x ⅝ in. x 5/16 in.

Pear Cases.

Internal dimensions: 18 in. x 11½ in. x 8½ in.

Two ends, one piece not under 8½ in. x ⅝ in.

Two sides, one piece not under 8½ in. x 5/16 in.

Two tops and bottoms, each two pieces not under 5½ in. x 3/16 in.

Four Cleats not under 11 in. x ⅝ in. x 5/16 in.

Provision to be made for the use of special cases for example, the Gerrard, and other cases.

Standard Pear Case.

A letter was received from the Department of Commerce, enclosing copy of letter from the N.Z. Government, quoting the wide acceptance of the Standard Pear case, 18 in. x 11½ in. x 8½ in.

After discussion, in which it was stated that English buyers preferred this package, it was decided on the motion of Messrs. Carter and Blick that this Council recommends for adoption in 1935 the standard Pear box, 18 in. x 11½ in. x 8½ in., with trays of proportionate size.

Export Control.

Mr. Bailey moved that the principle of an export control bill be adopted, embodying the recommendations of the Victorian Fruit Marketing Association. He stated that the urgent need was for power to enforce the decisions of the Council and this could best be achieved by legislation. Mr. Herring seconded.

Mr. Brown said that it was not generally known that the general programme for the importation of Australian fruit into U.K. last season was satisfactory, the trouble, however, being the excess quantity, plus the huge extra importation of Bananas and Oranges during the Australian season.

Mr. Pearsall asked that the resolution be altered to read that the principle of an export control bill be adopted and that the Federal Government be requested to take a poll of the growers.

Several speakers stated that the resolution in this form would not meet the wishes of growers. Mr. Booth said that W.A. growers were 100 per cent. against the Export Control Bill. Mr. Court favoured the 1927 Bill brought up to date. He read a telegram from a large meeting in Northern Tasmania, urging the re-introduction of the 1927 Bill.

Mr. Thomson said that if export control legislation were desired, an amendment of the existing Act would have to be put through Parliament, but before introducing control legislation, the Minister would need to be assured that such legislation was desired, and not for a position to arise as in 1927, when the Bill was rejected. Mr. C. J. Parnham (Vic.) said that control was necessary as regards varieties and sizes for export, also as to distribution abroad: such control, however, could best be obtained through the Apple and Pear Export Council.

Mr. Colombie gave statistics showing the importation of Australian, Empire and foreign fruits into U.K. last season. He outlined proposals for the vesting of powers re export control in the Australian Apple and Pear Export Council.

Mr. Carter moved as an amendment, that in view of the decision reached by this Council, providing for the regulation of the Australian Fruit Export Season in 1934, the question of a control Board be deferred for one year. Mr. Booth seconded.

Mr. Ranger said the Council had already adopted the principle of compulsion by accepting the proposals for limitation of varieties and sizes. By securing statutory powers the Council could function more effectively. He could suggest some amendments to the 1927 Bill in addition to those proposed by the V.F.M.A., he suggested that the words: "and that a Committee of this Council be appointed to draft further amendments," be added.

Mr. Bailey and Mr. Herring agreed and Mr. Pearsall withdrew his suggested motion, and supported the amended motion.

Mr. Piggott spoke in opposition. He said it would be wrong to adopt the principle of a control bill without having the details. A control board would do away with the Apple and Pear Export Council. Mr. Randall favored a control bill as by it, power could be given to this Council to carry out its decisions. Mr. Bishop said that this Council was doing good work, it should be allowed to function as at present and be given a chance to prove its worth.

Mr. Mellor said that under the proposed control, growers would not have the same security over their goods as at present. Mr. Carter gave incidents of unsatisfactory features of other control boards, the producers having suffered thereby. His amendment was put to the meeting, two growers voting in favor and nine against; shippers, eight in favor, one against. For the motion, nine growers voted in favor, two against, shippers, one in favor, eight against. The result being thus negative, it became a reserve question for reconsideration by the State associations.

The Chairman stated it was now open to the State associations to draft the terms of a control bill if desired, and a meeting of the Executive would be called at any suitable time in 1934 to deal with this matter.

Uniform Inspection.

On the motion of Messrs. Cane and Piggott, it was decided to request the Commerce Department to arrange for an interchange of fruit inspectors in the several States. Other resolutions were adopted: that the Commonwealth authorities be asked to provide officials to supervise loading operations and stowage, and to report to the State associations on each ship.

The need for inspection of the loading of ships at Fremantle to minimise rough handling was stressed by Mr. Simper.

Delegates stated that Commerce officers already had considerable power to deal with offenders who handled fruit roughly. W.A. delegates agreed to obtain copies of Acts of Parliaments in the several States which made the rough handling of fruit a punishable offence: with idea of similar legislation being enacted in W.A. A copy of the S.A. Act on this subject was handed by Mr. Bishop per the Chairman to Mr. Booth.

Overseas Freights.

The Chairman reported that following last Council meeting, cables had been exchanged with the National Fruit Trade Federation in London, the figures quoted were correct at the time, but were subsequently exceeded. Tracing the events of the past season he said that the Fruit Industry had been responsible for the cancellation of

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the freight contracts. Conferences had been held in Sydney with the A.O.T.A. and shipping interests, the Prime Minister had been interviewed on three occasions; the disbandment of the A.O.T.A. had been contemplated, but this was not favored by other sections. Shippers of other produce had received freight concessions, but the only offer for fruit freight reduction was 2d. per case in June and 3d. in July; the voting power of the fruit industry on the A.O.T.A. had been strengthened.

Continuing, the Chairman outlined the genesis of the A.O.T.A., i.e., rationalisation of cargoes to save a projected rise of 7½ per cent. in freight.

Mr. Herring moved that as successful export is vital to the industry, the Federal and State Governments and Port authorities, be asked to give such relief through remission or reduction of port dues, taxation, and other governmental charges, which will in turn enable the shipping companies to make the reductions which have been indicated.—Carried.

Corrugated Strawboards.

Mr. Booth said that W.A. was in the unfortunate position of having to pay more for her strawboards than other States, because of her geographical position. The Customs Department had refused to allow drawback of duty on re-export of imported strawboard; with many other goods there was a Commonwealth price, and this should apply to strawboards. He moved that representations be made to manufacturers to supply corrugated strawboards at the same rate for all States on the same principle as applies to other protected industries.

Mr. Cane seconded (pro forma).

In the discussion which followed, delegates pointed out compensating advantages enjoyed by W.A.: the fruit being on the trees longer, shorter journey to U.K., fruit last in the ship and first out, and that for the request of W.A. to be granted the price would have to be raised in the other States.

The motion was lost.

Sales Tax on Wrapping Paper.

The Secretary reported the lengthy negotiations to secure cancellation of the claim for retrospective Sales Tax (prior to December, 1932). There had been considerable correspondence and interviews with taxation authorities. The Commissioner at Canberra had written stating that the matter was now before the Government and advice would be sent as soon as possible.

Advertising Fruit.

The report on advertising of Australian Apples and Pears in U.K. in 1933, submitted by Mr. A. E. Hyland, Director of Trade Publicity, to the Dept. of Commerce, was circulated to delegates. Appreciation was expressed by several speakers for the excellent work accomplished by Mr. Hyland. It was decided on the motion of Messrs. Colombie and Mills that appreciation be expressed to Mr. Hyland for his services.

Apple and Pear Gift Scheme.

The Chairman outlined the programme for an Apple and Pear Scheme from Australia, the fruit to be paid for in Australia and to go forward in one ship. The organising would be conducted by the Melbourne "Herald" Organisation, which had been successful with the lamb gift scheme. Some delegates expressed the opinion that such a gift scheme might be opposed by the brokers in England. The Chairman stated that this was not the case as the fruit would be paid for here and would be sent straight to addressees in England. There would be considerable advertising value attached to the plan.

On the motion of Messrs. Blick and Herring, it was decided to approve of the proposal for the Apple and Pear gift scheme committees to be formed in the several States for this purpose.

Insurance and Collection of Claims.

The Chairman stated that an important statement had come forward through Mr. C. J. Parnham, Victoria, for securing the services of a trained investigator who could effectively collect claims. It happened at times that claims were not gone on with for lack of a man on the spot whose job it was to attend to same. These services could probably be financed by the payment of a retainer and a percentage of the claims collected.

It was decided on the motion of Messrs. Pearsall and Bailey that this matter be referred to the State associations for consideration and the putting of their views in writing. The executive to deal with the matter and be given power to act. At the suggestion of Mr. Bailey it was decided to ask Mr. Colombie to assist in finalising this matter on his arrival in London.

Thrips Investigation.

Mr. J. W. Bailey reported favorably on the work of the Thrips Investigation League, which had come into existence following a resolution passed at a meeting of the Australian Apple and Pear Export Council. Patient scientific work was being done, and the enterprise deserved the full financial support of every State.

Mr. Randall said that the work was of a basic nature which had to be done before results could be expected. He congratulated Mr. Bailey, and stated that Mr. H. N. Wicks, of S.A. was also rendering good help to the investigators.

On the motion of Messrs. Brown and Blick, a cordial vote of thanks was conveyed to Messrs. Bailey and Wicks.

Empire Producers' Organisation.

The Chairman said that an Empire Producers' Organisation was in existence, embracing all phases of Empire primary production. A conference of the fruit section had been planned to meet in London in March, 1934, it was desired that this Council should affiliate, and that a grower delegate should attend. The affiliation fee was £25.

In response to a question by Mr. Carter, the Chairman said that if any delegate was sent, that delegate would not have any power to bind the Council in any way, but any recommendations made on his return would receive consideration. It was decided on the motion of Messrs. Calvert and Pearsall, that this Council should affiliate. As Mr. Colombie would be in London at the time of the conference, it was decided to ask him to attend; this, however, not to affect the appointment of any person selected by the Council as a delegate. It was thought that the Governments and shipping companies might be willing to assist with the expenses.

It was finally decided in accordance with the desires set out by the Empire Producers' Organisation, that a grower delegate should attend and was left with the State associations to make a recommendation, the matter of finance to be settled by the executive.

Cultural Research.

Mr. Randall said that the S.A. Fruit Marketing Association had a research committee, which dealt with cultural matters, pest control, the problem of alternate cropping, manural experiments, etc., and moved that this council recommends to the State associations consideration of the desirability of establishing research committees.

Mr. Bailey, in seconding, stated that the V.F.M.A. Re-Research Committee had organised field days for pruning

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demonstrations, etc. It had been noted that the Jonathan Apple kept much better in storage if grown on laterals, instead of on the main boughs. On the main arms, the fruit received more sap than when the sap was checked by the fruit hanging on a lateral and in consequence, the fruit was harder and stored better. The V.F.M.A. was also inquiring into the subject of by-products. Mr. Herring told of the work being conducted by the N.S.W. Department of Agriculture in breeding new varieties. Mr. Thomas spoke of similar work in Tasmania, and investigation in the fruit tree stocks. The motion was carried.

Sunlight Affects Apple Storage.

Mr. W. M. Carne, Council Scientific and Industrial Research, gave an interesting address dealing with the experimental work which he is conducting in Tasmania under the auspices of the C.S.I.R., relative to the keeping qualities of Tasmanian Apples in cool store. A most interesting feature was the apparent indication that seasonal as well as cultural conditions were reflected in the keeping quality of the fruit under varying temperatures.

The experiments were in line with tests in Canada, New Zealand and England, under fairly similar climatic conditions to those of Tasmania. The result so far indicated that when temperatures were low during the growing period of the Apples, the keeping quality was best maintained at considerably higher temperatures than those previously used in commercial storage.

In thanking Mr. Carne, delegates stated that these experiments were of very great interest and importance to all interested in the production and storage of Apples, and would lead the way for a similar series of tests in other parts of Australia.

Evaporated Apples.

Mr. Pearsall referred to the letter from Mr. Robert Harvey, at Cygnet, Tasmania, suggesting a bounty of £10,000 to process 300,000 bushels of apples, and moved, that in view of the general restriction of varieties and sizes of Apples for export overseas, this Council strongly recommends to the Commonwealth Government that assistance be given to enable evaporated Apples to be exported overseas. Seconded, Mr. Calvert.—Carried.

Honorarium for President.

Mr. Mills was asked to leave the chair, and Mr. Pearsall presided. Cordial references were made to the work of Mr. Mills during the past season. Mr. Simper moved that an honorarium be voted to Mr. Mills. Seconded Mr. Court, and carried with acclamation. On the return of Mr. Mills, Mr. Pearsall informed him of the above resolution. In returning thanks, Mr. Mills stated his services were fully at the disposal of the industry.

Uniform Nomenclature.

A committee was appointed consisting of the State Fruit Experts, together with Mr. Calvert, to advise on uniform nomenclature for the varieties which were for export next season.

The committee retired, and on return, reported that as the varieties King Pippin and Adams Pearmain were definitely distinct, they had been listed separately. Abbreviations were recommended to be included in the Commonwealth regulations. (List included earlier in this report.)

Export Control.

Mr. Mellor said that despite the recent vote referring the subject of export control to the State organisations, he felt that the Council should take the initiative and moved that the executive committee draw up a plan—including legislation if found necessary—to ensure that the decisions of this Council can be made effective, such plan to be submitted to the constituent members as soon as possible.

Mr. Pearsall seconded.—Carried.

Ribbons for Fruit Shows.

At the request of Mr. Court, a resolution was submitted by Mr. A. J. Honey, Tasmania, as follow:

"That it be a recommendation to the State organisations to urge show committees in the several States to use wool ribbons instead of silk." Mr. Honey said this was part of the "use more wool" campaign, he submitted specimens of excellent show ribbons made from wool. At the instance of Messrs. Court and Pearsall, the motion was carried.

Democrat Apples.

Mr. Cane said he had received a telegram urging that Democrat Apples larger than the 3¼ in. maximum be permitted to be exported. On being put to the meeting, the request was lost.

"Australia" on Fruit Cases.

Mr. Simper asked if the words "Western Australian Apples" would pass the export authorities as fulfilling the regulation that the word "Australia" must appear.

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Mr. Thomson said that this had been done in connection with other industries. Noted.

Election of Officers.

Mr. Pearsall proposed that Mr. Mills be re-elected President. Seconded Mr. Simper.

Mr. Pearsall asked for other nominations, but none were received, and Mr. Mills was declared re-elected with applause.

Mr. Pearsall was re-elected Vice-President without opposition on the motion of Messrs. Simper and Brown. The Chairman referred appreciatively to Mr. Pearsall's services.

Next Conference.

On the motion of Messrs. Simper and Calvert, it was decided that the next Council meeting be held at Melbourne, 1934, on a date to be fixed by the Executive.

Votes of Thanks.

Hearty votes of thanks were recorded to the Fruit Growers' Federation of N.S.W. and the N.S.W. Apple and Pear Export Association (with special reference to Colonel Herrod); the Royal Agricultural Society for use of room; to the Commonwealth and State Officers; Messrs. Wm. Cooper & Nephews; and the Gerrard Wire Tying Co., for appreciated entertainment, also the press. A vote of thanks to the Chairman was carried with cheers, and the Conference closed.

Executive Meeting.

A meeting of the Executive Committee was held at the rooms of the Fruitgrowers' Federation of N.S.W., on Monday, November 21, Mr. Mills presided. There were also present, Messrs. Bishop and Randall, S.A.; Booth and Carter, W.A.; Piggott, Pearsall, Court and Cane, Tasmania; Herring and Blick, N.S.W.; and Brown, Victoria; H. G. Colombie, and the Secretary.

The Chairman said that the meeting would consider ways and means of making the Council's decisions effective.

After full discussion regarding statutory powers, it was finally decided on the motion of Messrs. Pearsall and Blick that Mr. Mills go to Canberra with Mr. Thomson (Dept. of Commerce) to impress upon the Minister of Commerce, the desirability of the Australian Apple and Pear Export Council being given the necessary power to put its decisions into effect.

At the suggestion of Mr. Colombie it was further decided that the clauses of the constitution of the Australian Apple and Pear Export Council be redrafted if necessary to fit in with the wishes of the Minister for Commerce, in order to confer the necessary powers on the Council, such proposed alterations to the constitution to be submitted to the State Associations (motion Messrs. Herring and Brown).

A Committee consisting of Messrs. Brown and Colombie, together with the Chairman, was appointed to consider the proposals laid before the recent Council meeting by Mr. Colombie for redrafting clauses to the constitution if necessary.

Apple and Pear Export.

In answer to Mr. Cane, the Chairman said that the figures for 1934 export were 4,830,000 cases Apples and 570,000 cases Pears. This figure was the maximum for apple export, and was the first forecast. Any revision of the forecast could be made within four weeks, when the agreement could be signed. Space not filled in one State would be made available by arrangement to the other States. The foregoing restrictions apply to Apples

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only. No restriction on Pears, it being known that there was no relationship in market values as between Apples and Pears, as when Apples were sold on a glutted market at low rates, Pears maintained high average values.

Next Executive Meeting.

It was decided that if found desirable to call an Executive meeting, most suitable date would be in June, 1934, left with the President to take action.

Suggestions were made for improving shipping—smaller holds, convenient holds for discharging fruit at Colombo, Aden, and Port Said. These matters to be mentioned at the conference that day with A.S.R.A.

Social Functions.

The dinner tendered by the N.S.W. Apple and Pear Export Association to the delegates attending the Australian Apple and Pear Export Council Conference, at Sydney, on November 15, was a happy function.

The principal drink was the Mountain Maid Sparkling Cider (non-alcoholic) manufactured by the Batlow Fruit Cool Stores Co-op. Co. This cider was greatly appreciated, in fact the cider was consumed while beer remained untouched.

Mr. A. U. Tonking, M.L.A., President of the N.S.W. Apple and Pear Export Association, occupied the chair. Many interesting speeches were made by delegates. The Secretary, Col. E. E. Herrod, was congratulated on the success of the arrangements.

A Happy Function.

The firm of William Cooper & Nephews (Aust.) Ltd. provided a bright interlude in the deliberations of the Conference by inviting the delegates and press representatives to an informal luncheon at the Royal Sydney Yacht Club on Friday, November 17. It was a happy thought that was fully appreciated by the conference. The trip across the Harbor in a launch to the Yacht Club's premises at Kirribilli, gave the delegates a fine opportunity of viewing the famous bridge from the water line. Mr. J. L. Small was master of ceremonies and had charge of the party on the trip. They were welcomed on arrival by Mr. R. H. Harrowell, who, in responding to a toast to the firm, moved by the Chairman (Mr. J. B. Mills), said that the growers' problems were bound up in those of the firm he represented, and he knew they would appreciate the firm's gesture in providing a break in the work of the Conference. They had big problems to solve, problems that were of Australian-wide interest, and he hoped their work would be brought to a satisfactory conclusion.

Messrs. J. B. Mills and J. P. Piggott, in happy speeches, thanked the firm for their hospitality to the delegates.

* * * * *

The Gerrard Wire Tying Pty. Ltd. was also thanked for entertaining delegates. At Melbourne some of the delegates were taken for a motor trip to Warburton, Mt. Donna Buang and the Blacks Spur, Healesville. At Sydney delegates were taken over the Sydney Bridge to the Zoo and Aquarium at Taronga Park; after an enjoyable lunch at the Pacific Hotel, Manly the return journey to Sydney was made by ferry, the delegates thus noting many features of interest in the famous Sydney Harbor.

APPLE AND PEAR EXPORT COUNCIL.

(The Editor, "Fruit World.")

Dear Sir,—

Having attended the recent Sydney Conference as an adviser to the Council, without voting power and with no mandate or instruction from any section, I occupied the position of a detached observer, which probably enabled me to view the discussions dispassionately and impartially.

I think the results achieved are quite satisfactory, as I consider that our industry has made real constructive progress. Not only are delegates entitled to due recognition for this and to the thanks of the industry, but they should also be highly commended for the spirit of goodwill and harmony that prevailed throughout the proceedings, both in Conference and in Committee. The Conference, which, by the way, was one of the most strenuous I have attended, immediately settled down with a will to work, and the genuine spirit of give and take displayed by the delegates augurs well for the future, and shows that we are at last breaking down State and sectional barriers which, in the past, have been serious obstacles to progress.

The most notable achievement of the Conference is the unanimity displayed by all grower and exporter delegates to eliminate from exports to Europe, "plain" grade and certain varieties and sizes. It is to be hoped that the Council's negotiations with New Zealand will result in the latter adopting a similar policy.

We are, however, still faced with very serious competition on the European markets by the increased importation of various types of foreign fruit, and I trust that we shall next deal with this serious aspect.

The only note approaching discord at the Conference was an unfortunate division regarding the advisability or otherwise of the Federal Government enacting a Bill to control the export of Apples and Pears. I feel, however, it was not fully realised by some delegates that, in effect, there was unanimity in regard to the principle of control, and that any division of opinion lay more in the matter of terminology and the manner in which governing clauses should be devised and applied to bring about the form of control that would give the most desirable results.

In my opinion, we have already reached the half-way house with the organisations at present in existence, and I think that a widening of their constitution and membership, together with their official recognition by State and Federal Governments, will unite all parties and bring about

in effectiveness the desires expressed by all sections.

As one who has been keenly interested in the organisation of our industry, I must record my gratification at the progress achieved at the 1933 Conference, and I feel very strongly that, given the same measure of goodwill, further substantial progress will be made at the 1934 Conference.

Yours faithfully,
H. G. COLOMBIE.

Answers to Correspondents.

Apple Growing.—"J.D.," Griffith, N.S.W., writes:—I would like some practical opinions on the Red Apple situation, as most growers who have young trees, say eight to nine years, complain of failures here. Perhaps some special time or method for pruning or manuring would help matters. Personally, I think August is the best month for pruning Reds in this district; still, I would be very grateful for expert opinion on the subject.

Answer (by C. J. Goodman's Nurseries, Bairnsdale).—Without an inspection, it is impossible to state definitely what the cause of the delay in fruiting is. It may be due to the pruning being too heavy—it may be the lack of cross fertilisation. I do not know what kinds of Red Apples are concerned, but I think either reason given is at the bottom of the trouble.

TO DRY APPLES.

R.W. (Castlemaine).—The following are directions for drying Apples, given by Miss Knight, of the Victorian Department of Agriculture:—Any white-fleshed variety fully matured but not floury or mealy is suitable. The Apples are usually peeled, cored, and sliced, but they are sometimes dried whole. During the preparation of this fruit they are sometimes dropped into a weak solution of salt water, about two tablespoonfuls of salt to a gallon of water, to prevent discoloration by being exposed to the air, but the fruit should not remain too long in this; only until the required quantity is prepared. They are sulphured for about 20 or 30 minutes, and then dried until the slices or rings are soft and velvety to the touch and have a pliable texture. Another way of judging is to take a handful of the slices and close the hand tightly, pressing the fruit firmly into a ball in the palm of the hand. If sufficiently dry the rings or slices should be springy enough to separate at once on opening the hand. The fruit is subjected to the fumes of burning sulphur to bleach it and prevent it from turning a dark, unattractive color when drying. Sulphured fruits appear to dry more quickly and with a better texture than the unsulphured, and it is also said to give a certain amount of protection against insect injury while the fruit is exposed for drying. Although where only small lots are being treated for home use this operation may be omitted altogether if desired, yet the sulphured product is much more attractive than the unsulphured. For fumigating small quantities a large wooden box could be made use of as a sulphur box, and an iron pan, or other shallow receptacle suitable for the purpose, would serve to hold the burning sulphur. It may be found that the sulphur does not usually ignite very readily. A few live coals from a wood fire are often used to start the burning, and it is necessary to watch and see that the sulphur begins to burn well, as it will sometimes go out before it gets a good start. The trays of prepared fruit are placed in the box in such a way as to provide free circulation of the fumes between the trays, the box then closed, and the fruit subjected to the fumes for the requisite time. When sufficiently fumigated the fruit is ready to be dried. The length of time necessary for exposure to the sun and wind differs with the variety of fruit under treatment and the size of pieces, temperature, weather conditions, and other influences. When required for use the dried fruit should be soaked overnight in cold water, and may then be used in any of the ways that fresh fruit is used.

CHRISTMAS AND NEW YEAR GREETING TELEGRAMS.

Arrangements have been made for the lodgment and delivery of Christmas and New Year Greeting Telegrams.

Specially printed and brightly colored forms and envelopes have been provided, and the telegrams may be lodged at any telegraph office from now onwards, for delivery on Christmas Eve, or any desired day from December 18, 1933, to January 6, 1934, inclusive. The usual rates will be charged, according to the destination. In each telegram the word "GREETING" should precede the address and is sent free. Telephone subscribers within the metropolitan area may at any hour lodge Greeting Telegrams by telephoning J 075, and the cost, including call fees, will be debited to the subscriber's account.

Between Melbourne and Sydney the Department provides the "Photograph by Telegraph," by which a photograph or any other pictorial form may be telegraphed and delivered to any addressee in the respective cities.

Full details of all services will be supplied by Postmasters, or the Telegraph Branch, Melbourne.

A Profitable Sideline

Good money is to be earned in the country by the snaring of water rats. Farmers and others living near rivers, swamps or large dams will have no trouble in seeing traces of these little animals, the skins of which are much sought after by manufacturing furriers to-day. They bring high prices right through the year. Water rats are easily snared by placing a sliding loop or slip-knot of very fine wire over the mouth of their burrow or on the run, which can be clearly seen in the grass and tussocks near the water. The snares may be set late in the afternoon and visited to take the catch in the early hours of the morning. The method of skinning and drying should be the same as that used when skinning a rabbit. This method is well known to all country people, and needs no further explanation.

Care should be taken to see that the skins are thoroughly dried before packing for transit or storing, otherwise they may arrive in a damaged condition.

Messrs. SLATTER & CO., of Nicholas Building, Swanston Street, Melbourne, will purchase these skins in any quantity, and pay top market price. On receipt of a parcel, they grade the pelts, and forward you a cheque by return of mail. This firm are also buyers of other skins, and will always be pleased to receive consignments of same from the country.

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New South Wales.

A report issued by the N.S.W. Department of Agriculture at the end of October was as follow:—

Pome Fruit.

The setting appears to be patchy in inland districts with the exception of the Armidale centre, where both Apples and Pears give promise of yielding satisfactorily.

In the Young district Granny Smith, King David, Delicious, Tasma and Statesman are very lightly cropped; Jonathans and Rome Beauty have set the most fruit.

Around Orange, Delicious have poor prospects. In some orchards Granny Smith, Jonathan, London Pippin, Fameuse, Gravenstein and Democrat appear to be carrying good crops of fruit, but much depends on subsequent shedding.

In the Goulburn centre the setting of Apples is poor, some varieties having failed to set any fruit.

The Granny Smith crop on the Murrumbidgee Irrigation Area is considerably lighter than last year. Cleos. have set fairly well, but red varieties have practically failed.

The early crop of Apples in coastal areas varies considerablly, being light to poor in some localities and good in others.

The Pear crop around Young is moderate to light; Williams and Packhams have the best prospects.

There is a patchy setting of Pears in the Orange district, ranging from fair to good, and in some cases heavy.

Pears set fairly well in the Goulburn area, but the shedding now taking place is likely to reduce considerably the prospective crop.

The setting of Pears on the Irrigation Area is generally poor, although prospects are more favorable in the Leeton portion, particularly for Williams.

Stone Fruit.—The Cherry crop is generally good, being very heavy in the Armidale district. This crop is badly in need of rain around Goulburn and in the Young centre.

On present indications light to good yields of Prunes are likely in the principal growing centre, viz., Young, whilst medium crops are in sight on the Murrumbidgee Irrigation Area.

Some early varieties of Apricots and Cherries were marketed during the month. It is expected that fair quantities of Plums and Peaches will be available from Coastal orchards early in November. Generally satisfactory crops of early varieties of stone fruits are in sight but later maturing sorts are patchy.

Citrus Fruit.—The blossoming appears to be erratic throughout the many growing centres, being good to heavy in some localities and definitely light in others. Indications of the probable extent of the setting will not be available for some time.

Bananas.—During the month heavy rains were experienced throughout the plantations. These proved beneficial and have stimulated growth. The fruit is maturing well and prospects indicate fairly heavy marketings for November. Compared with the corresponding period of last year consignments from Coffs Harbor showed an increase of over 400 cases.

Pineapples.—In the Lismore district a heavy crop of the Queen variety is now flowering and should result in a good harvest in the autumn and early winter. It is expected that the marketing of the crop now maturing will be heavy during November. Further areas are being planted out in this centre.

Passionfruit.—The crop is light in the Mullumbimby district and will mature much later than usual. In the Lismore centre only light yields are likely to be harvested during November.

A heavy summer crop is indicated in the Kenthurst-Glenorie district.

Murrumbidgee Irrigation Area.

Main fruits grown on Murrumbidgee Area:—

Citrus.—Lemons, W. Navels, Valencias and Emperor Mandarins.

Apples.—Principally Granny Smith, with Cleopatra, Jonathan and Delicious for pollination purposes.

Pears.—Williams and Packham, few acres Josephine.

Peaches.—Principally Pullars, Golden Queen and Phillips, Elberta for drying.

Apricots.—Trevatts, with a few Moorpark, and Newcastle Early. Trevatts largely sent to canneries, and balance dried.

Prunes.—D'Agen and Robe de Sargeant, pollinated with Angelina Burdett.

Sultanas, Currants.—Wine Grapes of all varieties, B. and W. Shiraz, Hunter River Reisling, Pedro, few Mataro, Doradillos.

Black Cornichon Ohanez.—Fresh fruit markets and export, a good many exported to Queensland, every year.

Quite a lot of money was made last season by some settlers out of pea crops, which struck a very satisfactory market, and realised good prices, but this season the outlook was not promising, and many growers lost money over the same crop.

Late Tomatoes were also a profitable crop last year, but do not seem to have a similar prospect this season.

There will be approximately 22,000 acres (twenty-two thousand) of rice this season on all parts of the Murrumbidgee area, and of this approximately 7,000 acres will be around the Griffith end of the area, and the newly opened up lands beyond the Warburn extension are showing up particularly well.

It is a revelation to people who come to this area to see the development in the larger farming areas which has taken place during the past two years, and the green freshness of the rice fields now showing well through the water which covers them, makes a pleasing contrast to the surrounding country, which is in a very dry state.

Comparison of Returns.

Citrus.—W. Navels, very light crop in most farms, with some exceptions, decidedly lighter general crop than last season. **Valencias**—Very heavy setting and the prospect of a far heavier crop than last season. Much fruit still on the trees, which has been held pending an improvement in prices. Prices generally have been very low, and the New Zealand embargo has undoubtedly affected the prices of this season's crop, while frost did a considerable amount of damage in marking the fruit and causing its keeping qualities to breakdown. **Lemons**—Medium to light crop. Frost affected this variety adversely.

Apples.—Decidedly lighter than last season, red varieties as Jonathan, King David and Delicious, with few exceptions are light to poor crops. Granny Smith medium crop, Cleo. medium.

Pears.—Williams, medium crops; Packhams, very light; total crop very much lighter than last year.

Peaches.—Elbertas, heavy, other varieties medium to good, generally lighter than last season. (Pullars, Queens and Phillips.)

Apricots.—Medium to heavy on some farms, generally lighter than last year's crop.

Prunes.—D'Agens, fair to medium crops; Robes, light; quality of fruit generally will be better than last season owing to the lighter crop.

Plums.—Angelina Burdetts, medium to good setting, about the same as last season, but fruit thinned out with dry spell of hot weather and fruit should be large. Satsumas, of which not many are grown, only fair to medium.

Grapes.—Black Cornichon, very light; Ohanez, light; Black Muscats, heavy; Currants, Sultanas and Lexias, showing very good crops, bunches generally far larger than last year. Black Shiraz, White Shiraz, good, also most other varieties.

Almonds.—Mostly very light to poor crops, owing to frost cutting the blossom, in a few sheltered places heavy crops are showing, and as most of these trees are grown as breakwinds they do not receive the attention they should do, and it would pay growers of these nuts to spray and manure their trees, and also to indulge in a little judicious pruning in alternate seasons.

Where these practices have been followed, the improvement is very marked, as red mite is very plentiful on all Almond varieties.

The season so far has mostly been dry with a fair fall of rain late in September, and this was followed by cool nights with a fair drying wind, and during the middle of the present month on the 17th to 20th over 2 inches of rain were recorded.

As the weather previous to this downfall was very muggy and hot, fears of downy mildew were rife, and settlers had mostly sprayed in anticipation of thunderstorms.

So far these fears have not been realised, and no downy mildew has so far been noticed, although black spot is in evidence to a slight degree in a good many vineyards.

A very marked improvement in the working of the orchards is noted, and growers generally are awakening to the fact that in order to obtain the best results with the lower prices prevailing, the farm must be kept worked up to a better standard.

The citrus survey which is being undertaken by the different States will undoubtedly have a marked effect on the improvement of quality, and many unthrifty trees will doubtless either be eliminated altogether or reworked.

For some years prices, specially for poor quality fruit has been unpayable, and owing to this fact many growers have neither manured or worked their trees, with the result that the orchards in a good many cases are going off and it will undoubtedly ultimately come to the survival of the fittest, for poor quality fruit will not be accepted when good fruit can be purchased cheaply, and thus the poor fruit will gradually be replaced with something more payable, or unless the average yield per tree can be materially increased they will become quite unprofitable to grow.

The sale of Oranges in bags this year has raised an outcry in some quarters, but it cannot be denied that this method of carriage of the second grade fruit has found a market for large quantities of fruit that would otherwise probably not have paid to market in cases, and has enabled many of the poorer people in the city to purchase fruit at a cheap rate, thus increasing sales.

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Even the best fruit throughout the season has not realised the prices it has in former years, and the increased crops are not altogether responsible, the spending power of the people is reduced, and they cannot on reduced incomes and lower wages afford the luxuries they indulged in when money was freer.

The citrus fruit this season has not kept as well as in former years, and this has also been a contributing feature to the lower prices.

With the return of the United States to the "wet standard," it is to be hoped that the growers of wine Grapes in Australia will benefit to a large extent, and if a publicity campaign could be instituted in America, urging the consumption of light wines in preference to spirits, perhaps this country would get its share of the large consignments of wines which are now being imported to America.

There have been large improvements made to some of the distilleries on the Griffith and Yenda areas, and a greatly increased storage has been allowed for, let us hope therefore that the grower will obtain a better yrice for his wine Grapes from now on, but the low of supply and demand must ever be the ultimate arbiter, in this as in other commodities.

With Grapes producing on an average of 150 gallons of wine per ton of fruit, even allowing the low price of 4/- per gallon was obtained by the wineries for the finished product, the difference between this and the prices paid to the growers for their Grapes, leaves a very large margin, and how much wine is ever sold as low as at the price quoted?—Correspondent.

Batlow.—Crop prospects in this District are from 60 per cent. to 70 per cent. of a normal crop in both Apples and Pears. In Apples, Granny Smiths will be a good deal lighter than this past season. Jonathans are better.

In Pears, Winter Coles are very light with most growers, whilst Packhams and Josephines have set medium to good crops.

Granny Smith Apples are still coming out of cool store here, and are in very fine condition. There are still a fair quantity of Yates to sell, and these also are in very good condition. There is no apparent difference as yet in the condition or appearance of this latter variety in the direct expansion room as compared with the air circulation rooms.—H. V. Smith.

NEW SOUTH WALES.

Young.—The main fruits grown are Cherries, Apples and Prunes.

Crop Prospects.—Cherries: About two-thirds quantity of previous year. Quality good, but owing to lack of rain when most required, the sample generally is not as good as it might be. Some varieties like Early Lyons and Eagle Seedlings seem to be of first rate quality.

Apples: Are reported to be in light supply. The setting is somewhat scattered, but trees look well. Rather too early to estimate quantities, but not as heavy as last year. Cleos. are practically non-existent; Granny Smiths and Jonathans moderate to light.

Prunes: Setting lighter and reported to be patchy. Indications are for a good moderate crop of good sized fruit. May be two-thirds of previous year, but it is too early to give definite estimates.—T.A.T.

Tenterfield.—Main fruits grown: Apples, Granny Smith, Jonathan and Democrat. Crop prospects: principal varieties are light compared with last year, Granny Smith particularly so. Varieties of less importance, such as Apple of Commerce, Scarlet Pearmain, are heavily laden.

Peaches medium to good; Apricots good; Plums medium.

Wonderful season is in prospect; fruit trees look well where cultural methods were right. Cherry trees, 25 years' old, have made good growth.—Peter Sommerlad.

The N.S.W. Fruitgrowers' Federation has been advised that the Sydney City Council has now decided to open the markets all night, as from December 1 next. It is not yet clear as to whether any restrictions are to be imposed in respect to this matter.

BANANA GROWING IN N.S.W.

Warning Against Over-planting.

The Minister for Agriculture (N.S.W.) is warning intending growers that care must be exercised in selecting districts suitable for the production of high quality Bananas. Production is increasing, and only first-class fruit will be in demand.

It is understood that some growers intend planting large holdings on the lower North Coast, where success is not to be expected. The Minister advises intending planters to consult the departmental fruit inspectors located in various centres on the North Coast before planting.

TO CONTROL CODLIN MOTH.

Bandaging and Spraying Compulsory in N.S.W.

A PROCLAMATION has been issued by the N.S.W. Department of Agriculture, requiring that all Apple, Pear and Quince trees growing on the land contained in the parishes of Apsley, Bathurst, Grantham, Malmsbury and Mount Pleasant, in the county of Bathurst; the parishes of Duramana, Eskdale, Jedburgh, Kelso, Melrose, Peel and Watton, in the county of Roxburgh; and the parish of Langdale, in the county of Westmoreland should have maintained round the trunk and every limb arising from the ground, and every limb arising from the main trunk at a distance of less than five inches from the ground, a bandage of twill sacking (i.e., wheat sacking) of a weight of not less than 15 oz. per yard, of 26½ inches in width, such bandage to be not less than eight inches in width, to be folded once with the opening of the fold facing downwards and to be clear of the ground at its lower edge. The bandages should be maintained on the trees from November 15 in each year, and removed not earlier than June 1, nor later than July 31 in the following year. The bandages should be examined and all larvae and pupae of codlin moth destroyed at intervals not exceeding fourteen days during the period between November 15 in every year and February 15 in the following year, as well as at the time of removing the bandages. Compulsory bandaging, is, of course, in addition to the conditions already in force requiring the spraying of trees at intervals with arsenate of lead and the destruction of infected fruit. Failure to observe the requirements of the proclamation makes a grower liable to a penalty of up to £50.

Australian Dried Fruits.

Sales in Great Britain.

The Commonwealth Dried Fruits Export Control Board report that during the week ended November 9, 602 tons of Australian dried fruits were sold in Great Britain.

268 tons of Lexias averaged £43/1/8 per ton, 80 tons of Currants averaged £38 per ton, and 254 tons of Sultanas averaged £35/6/7 per ton.

The total quantity of Australian dried fruits shipped to Great Britain during the current season is 54,321 tons as compared with 24,005 tons at the corresponding period of last year.

The quantities sold of this season's crop amount to 32,184 tons as compared to 17,412 tons at the corresponding period of last year.

The demand for Currants continues active and, as has been the case throughout the season, there is an active market for Lexias due to the failure of the Spanish Valencia crop.

Sales of Sultanas are slow at the moment, due to the very heavy shipments of Australian Sultanas, of which 25,000 tons more than last year have been available to the British market. The offtake is light, but may improve as the Christmas demand develops.

There is naturally an absence of speculative interest in fruit in view of the large supplies available and economic conditions.

DRIED FRUITS BOARD.

Melbourne (7/11/33). — Nominations closed yesterday with the chief electoral officer (Mr. Rowe) for the election of members of the Victorian Dried Fruits Board. They were as follows:—

No. 1 District.
(Mildura Town and Shire.)
*S. R. MANSELL, Mildura.
*E. T. HENDERSON, Mildura.
*H. V. DAVEY, Red Cliffs.
A. RAWLINGS, Merbein.

No. 2 District.
(Rest of the State.)
*D. A. COCKCROFT, Woorinen.
J. LYNN, Bamawm.
H. J. WILLIAMS, Mooroopna.

*Denotes retiring member.

Three members are to be elected for No. 1 district and one for No. 2. Ballot papers are now being sent out to 1,700 growers in the No. 1 district and to 620 growers in the No. 2 district. The voting closes at 4 p.m. on December 4.

Sure and steady wins the race.

ORCHARD WORK WANTED
Horses for Orchard Work
(Plow, single or double).
Motor Spray Pump always on hand. Good references.
G. T. KNEE, E. Doncaster.

APPLE PUBLICITY CAMPAIGN.

AT a meeting of representative Apple growers held at Melbourne in June last, it was decided to launch a publicity campaign. A Committee was formed with Mr. J. H. Lang, of Harcourt, as Chairman. The response to an appeal for funds indicated that a considerable number of growers were appreciative of the value of advertising, but it is apparent growers as a whole have not yet realised the necessity of advertising the merits of their produce. In their efforts, the Committee was strongly supported by the Railway Commissioners, the City Council Markets, the Melbourne and Metropolitan Retail Fruiterers' Association, and others.

The following publicity was used:—"The Herald," one-third page; several articles regarding the value of fruit and health were published in the literary columns of "The Herald"; 3,000 copies of "The Herald" advertisement were printed and issued to retail fruiterers; attractive slides were shown in fifteen of the principal picture theatres around Melbourne for a month, price tickets (5,000) re selling fruit by number instead of by weight were distributed. The Railway Department showed large calico signs advocaing the eating of more Apples. There were also printed and distributed Apple recipe cards and special displays of Apples were made at railway fruit stalls.

Selling by Count.—An important advance was made in the decision of the Retail Fruiterers' Association to sell Apples and other large fruit by the count instead of by weight. As was to be expected, certain opposition was offered to this method of sale and further action will be taken next season to ensure the adoption of this method.

At the final Committee meeting a special vote of thanks was carried to "The Herald" for its initial organising campaign and for the general helpfulness, also thanks of the "Fruit World" for services.

Though the effort has been a comparatively small one, there has been sufficient to indicate that worth-while results can be achieved by effective publicity. It is to be hoped, therefore, that growers will appreciate what can be done, and will give their support to the more ambitious effort to be made to improve sales and prices during the 1934 season.

Made in Australia
GERRARD
WIRE TYING MACHINES
STAND THE TEST FOR
RELIABILITY
AND DEPENDABLE GERRARD SERVICE
GERRARD WIRE TYING MACHINES CO. Pty. Ltd.
119-125 Hawke St., West Melb., C.3.
SYDNEY. BRISBANE. ADELAIDE. PERTH.
GERRARD
APPLE AND CITRUS PACKING CHARTS ARE AVAILABLE FREE ON APPLICATION....GERRARD SERVICE

GAS STORAGE—(Continued from page 669).

low temperature internal breakdown. In contrast with this, the other varieties were preserved in a manner and to a degree far exceeding that possible with cold storage alone.

Low Temperature Breakdown.

Low temperature breakdown is a well-known disease in cold storage in air. It appears when the fruit is stored at temperatures below its critical tolerance limit. The temperature tolerance limit is not the same for all varieties, and changes according to stage of maturity and other factors.

The breakdown in our gas-storage experiment was undoubtedly far more serious than we should have expected from the temperature of the store. Clearly there were temperature limits for satisfactory gas-storage, not only on the high, but also on the low side.

This experiment marked definitely the end of the idea that gas-storage without temperature control was an alternative method to ordinary cold storage. It cannot be too definitely stated that for nearly all purposes temperature control is essential in the gas-storage of fruit.

(To be Continued.)

CHRISTMAS MAILS.

Early Posting Campaign.

The Deputy Director of Posts and Telegraphs (Mr. R. Lawson), advises that a campaign has been inaugurated to urge on the public the necessity of posting Christmas mail matter early. Past experience has shown that if everybody leaves their postings until the last day or two before Christmas Day there will be such congestion that it will be impossible for the postal staffs to handle and send the postings along in sufficient time for delivery before Christmas Day.

Nearly thirteen tons of Christmas mail matter from Victoria were placed on board the R.M.S. "Orontes," which sailed from Fremantle on November 20, 1933, for conveyance to the British Isles and Europe, and it is anticipated that heavy postings for delivery within the Commonwealth will also be made during the forthcoming festive season. The public is therefore urged to at once see about purchasing their gifts and greetings, and as far as possible to spread the postings over the ten days preceding Christmas Day so as to ensure early delivery. Packets may be endorsed "Do not open until Christmas."

Rice in N.S.W.—In the Murrumbidgee Irrigation Area, it is expected that the total acreage of Rice under crop this season will be 21,000 acres. By the use of 2 cwt. an acre of sulphate of ammonia, yields are increased.

One night at a theatre a man who had dined rather too well, stood up in his seat right smack in the middle of the play and cried "Is there a doctor in the house?"

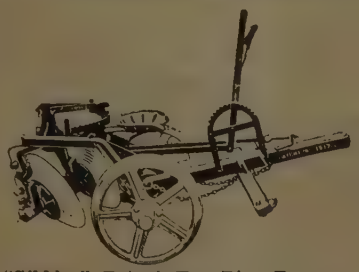
The actors faltered slightly, but the play bravely went on, although it was a bit of a blow to those concerned.

A moment later, the same man, still standing, repeated his question.

At this second call, another man arose and said: "Yes, I'm a doctor," whereupon the other nearly finished off the performance for that evening by asking, in a tone of great bonhomie: "How do you like the show, doc?"

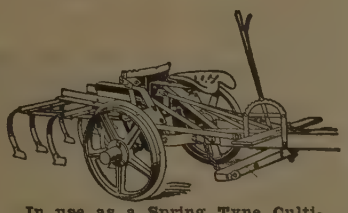
The "GIBBINS" Still Leads

Orchard-Vineyard Reversible Disc Plough with Attachments



"Gibbins" Patent Two-Disc Reversible Plough.

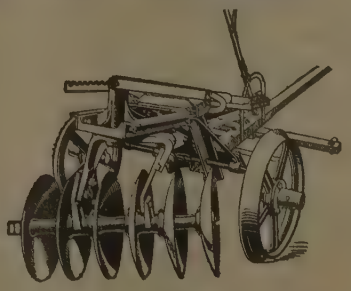
The patent "Gibbins" Reversible Two-Disc Plough now embodies patented features which relieve the horses of the strain of countering side draft and neck weight. This special feature, combined with adjustable undercut and patent rear floating disc enables the "Gibbins" Reversible Disc Plough to be pressed into service anywhere. It is the lightest plough on the market, and with Vineyard and Orchard Attachments, is the ideal plough for Orchardists (throwing on or off the trees).



In use as a Spring Tyne Cultivator.

This little Spring Tooth Cultivator can be supplied at small additional cost. All that is necessary is to drop off the plough discs and bolt on the Cultivator attachment to the same frame. Two horses will pull it.

A Catalogue with Pleasure Write to Dept. O. Ask for illustrations and prices of our Orchard Mouldboard Ploughs.



In use as a Disc Cultivator.

This Cultivator Attachment can be supplied at small extra cost. It is a truly wonderful Cultivator. The discs can be adjusted to meet any conditions. It can also be used as a Disc Harrow. It can be attached in a few minutes by dropping off the plough discs and bolting on the Cultivator. It is reversible in principle, the same as the plough. Two horses will pull it.

GIBBINS FARM IMPLEMENT CO. LTD. - FOOTSCRAY, W. 11

(The Plough People of 40 Years' Standing.)

CODLIN MOTH CONTROL.

Auxiliary Methods.

Mr. E. J. Newcomer, U.S. Bureau of Entomology, Yakima, Washington, U.S.A., recently stated that because spraying for codlin moth has been the most important and easiest method of control, many people are under the impression that it is the only means, but growers should adopt as many as possible of other known methods not involving spraying. Of chief value is the method of banding the trees. Properly used, chemically treated or untreated, bands will capture enough worms during the season to justify their cost many times. An effective scraping tool has been devised by O. T. McWhorter, of the Oregon Agricultural College, and he has shown how scraping and banding has been done economically. Another method is to attack the very large number of worms that hibernate in picking boxes. A grower in the Yakima Valley put 1,000 picking boxes in a close barn some years ago and left them until July. At one end of the building there were windows, and the moths were attracted by the light, and in order to find out how moths emerged, the grower destroyed those found on the windows each day, and 4,000 moths had emerged from the boxes. Boxes that cannot be closed should be sterilised, chiefly by means of steam or boiling water. All rubbish in the orchard should be removed, such as broken boxes, boards, sacks, and coarse pruning wood, as these harbor the cocoons. At picking time, all wormy fruit should be removed.

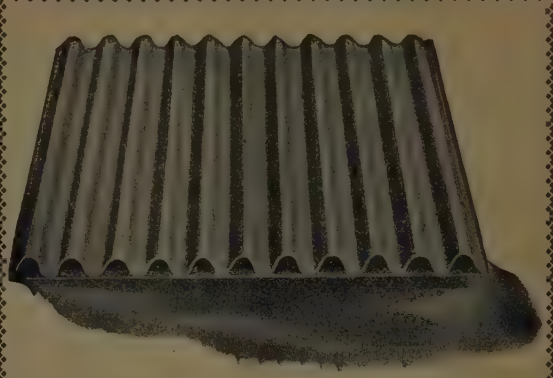
CONTROLLING THE STARLING PROBLEM.

According to the "Agricultural Gazette" (N.S.W.), the starling is so firmly established in the south-eastern parts of Australia that its eradication is a serious problem. No method of control is known, but the menace can be kept down to a certain extent, and a resume of investigations in this connection is given. Attempts are made usually to scare the birds away, but no move is made towards destroying nests in sheds and in the eaves of houses. Everything possible should be done to prevent starlings from nesting in such places by putting wire netting or boards over all cavities which might be used for nests. Nesting pairs should be shot, trapped, or poisoned, though the use of poison is not recommended unless the user is certain that the bait will not be taken by other species of birds. Trapping is not very satisfactory. Many simple kinds of traps have been used, and an ordinary frame covered with ½ to 1 inch wire netting or a screen ash shifter propped up and baited underneath, then set off with a string or trigger, has been found useful. Where large numbers of starlings roost, they can be driven away by the firing of guns just after darkness sets in and before the birds have settled down for the night. After three or four consecutive nights of this, they will probably leave the district. The starling is timid towards man and can be frightened with gunfire. In many cases the frequent use of the shotgun has prevented them from entering orchards, and in others completely driven them away.

STATIONARY SPRAY PLANTS.

The commercial value of stationary spray plants for orchards has been demonstrated in Tasmania, U.S.A., New Zealand.

Last season thirty new stationary spray plants were installed in Tasmania.



Corrugated Strawboard

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Apple Case Linings

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BRUISED FRUIT

Years of study in the packing of Fruit and Fruit Products aided by modern and accurate mechanical equipment produces corrugations of uniform strength and resilience, ensuring a safe and clean pack at a low cost.

The first glance at your Product by a purchaser when so packed ensures a better price.

Full Particulars on Application to:—

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SYDNEY - - N.S.W.

South Australia

SOUTH AUSTRALIAN FRUIT MARKETING ASSOCIATION.

The Executive Committee of the South Australian Fruit Marketing Association Inc. held a meeting in Adelaide on October 27, the following members being present—Messrs. H. J. Bishop, President (in the chair), A. R. Willsmore, P. R. B. Searcy, M. Vickers, T. Playford, H. N. Wicks, J. S. Hammat, R. B. Pritchard, R. A. Cramond, M. G. Basey, R. O. Knappstein, A. O. Peterson, J. B. Randell, D. W. Hannaford, F. B. James, E. S. Mason, G. Quinn and the Secretary (E. W. Mills). An apology was received from Mr. Miller.

The financial statement showed a balance in the bank of £160/18/9. Accounts submitted were passed for payment. Audited statement of accounts and balance sheet to August 31, 1933, to be submitted at the annual general meeting, were read.

The Secretary advised that the Thrips Investigation League had asked that all funds should be available. It was resolved to send £40 out of the funds standing to the credit of the Thrips League Trust Funds. It was also resolved that a deputation wait on the Minister of Agriculture asking for a contribution of £200 per annum for three years to the funds of the league. Mr. T. Playford, M.P., arranged for the deputation to be received by the Minister on October 31, and it was resolved that the deputation consist of Messrs. H. J. Bishop, T. Playford, M.P., H. N. Wicks, F. B. James, R. A. Cramond, J. H. Hobbs, J. Kemp, and, if possible, Dr. Davidson, or Mr. J. W. Evans, of the Waite Research Institute, and the Hon. G. R. Laffer, M.P., Patron of the Association, to be asked to introduce the deputation.

On the motion of Mr. J. B. Randell, seconded by Mr. F. R. B. Scarcy, it was unanimously resolved to nominate Mr. H. J. Bishop for reappointment as President. Mr. Bishop drew attention to his statement last year that he would definitely not be available for reappointment, but in view of his desire to see the matter of freight, etc., finalised, he would consent to renomination.

A Field Day was arranged for December 2, at the property of Mr. M. Vickers, Lenswood.

It was resolved that 1934 forecasts should be as follows—April, 300,000 cases Apples; 25,000 cases Pears, and to confirm the figures already supplied, namely, February 20,000 cases Apples, 10,000 cases Pears, March 350,000 cases Apples, 30,000 cases Pears.

The President reported that the Federal Government expected to make £125,000 available to assist the industry. On five million cases this would represent 6d. per case.

Mr. H. N. Wicks reported that at the meeting of the Research Sub-Committee, matters discussed had been codlin moth control, frost control, and consideration of report by the Chief Horticultural Instructor received from the Minister of Agriculture in regard to the enforcing of the provisions of the Act in respect to codlin moth.

Mr. H. N. Wicks gave notice of motion for next meeting that the importance of the work being done by the Association warranted greater publicity being given to it, as, at the present time a large number of growers did not realise the work that was being carried out by the Association for their benefit. It was decided to invite a representative of the press to be present at the monthly meetings of the Executive Committee.

MID-MURRAY NOTES.

Renmark (20/11/33).

Since last month's notes were written, we have had extreme variations in temperature, which is always an unwelcome condition for the fruitgrower. Coming at a time when certain trees are in blossom, others are commencing to set a crop, and the vines are working with a free flow of sap, we expect to see some damage under these adverse conditions. Pears have set a light crop in consequence of these factors, although they blossomed in profusion.

During the latter part of October, the variation between the maximum sun temperature and minimum grass temperature reached nearly 90 deg., and this extreme variation took place in a very short space of time. Although the thermometer reached freezing point, it was not of sufficiently long duration to cause any damage, but many of the early bunches of sultanas set badly. The later ones, however, have set fairly well, and on present showing will possibly not be more than 10 per cent. less than last year's crop.

Currants are looking extremely well, and the production should be well up to a normal year.

Gordos are very heavy, while the doradillos are the lightest for very many years.

Apricots are a medium crop, as is also the case with all other stone fruits.

Although vines burst a fortnight later than last year, cincturing commenced a week earlier, so that the development of our vines from bud burst to cincturing time made a gain of three weeks on last year's growth.

They are looking particularly well at present, being free from all fungus and insect pests.

On the whole, growers are taking a keener interest in field observation each year, and many were greatly concerned this year on finding thrips in among the bunches at flowering time.

Thrips have been with us off and on for very many years, probably ever since the irrigation settlements started, but because of their minute dimensions, these mites remained unobserved until they were brought before our notice two years ago, when they appeared in plague form in Victoria and in the Adelaide hills, but did not affect the river areas. Thrips do not appear to cause damage to the vine blossom as far as the observations of the writer goes, the flower does not lend itself to the same shelter as with Pear and Apple blossoms, and although many thrips could be shaken out of Currant Grape bunches, they have set quite satisfactorily.

The gradual increase in the grubs from the

light brown Apple moth

is causing some concern to growers who have kept a watchful eye on the fruit bunches as they develop, year after year, and although we have been advised to incorporate an arsenical proportion to our summer sprays, it is quite the exception to hear of this being done. It is as yet a moot question whether the spraying of vines for the purpose of eradicating the little green grub is an economic one if practised as a single purpose spray, but there is no doubt that if it increases in the way it has within the past few years, we will be obliged to take steps to combat it.

The fruitgrower, owing to economic conditions, is often faced with the position of considering the grafting or grubbing a variety which has become unprofitable. Owing

to the accumulation of proof spirit, manufactured from the Doradillo Grape, this variety has been unpopular for many years.

Last year many acreages were grafted to drying varieties in Renmark, and a start was made in the Berri areas, where the position has become more acute owing to the much larger plantings.

During the past two years, upwards of 400 acres of Doradillos have been worked over to drying varieties and wine varieties in the Berri areas alone, and it is hoped by growers that this factor, coupled with an extremely light crops as showing this year, all the Grapes will be absorbed. The spirit position seems to be governed by local considerations, and on the present outlook, the Renmark area will be able to make use of all the Doradillo Grapes in future, under normal conditions. No one can predict the marketing possibilities of any variety of Grapes, and when individuals are left to their own devices, it becomes a matter of "follow my leader," which has been the cause of past overproduction and market shortages.

Wine and spirit makers have had lean years in the past, but with the possibilities of an American market for our products it seems a wrong policy to adopt one of indiscriminate grafting owing to its present outlook, only to find that when the grafted vines have come into bearing, there may be a call for the grafted variety.

Tipping Vine Shoots.

The tipping of next year's fruiting canes has just been completed, but will have to be watched, nevertheless, throughout the growing period, for, to get the best results, they must not be allowed to run away to undesirable lengths otherwise the fruitful buds will be far out on the canes, and will be cut off next winter. A good deal of confusion still exists in the minds of many growers regarding tipping practices. A few days ago the writer saw some Sultana vines having 2 and 3 ft. cut off the canes. This is harmful to the vine. In tipping, as has so often been explained, the least possible amount must only be cut off at each operation, so that there will be no check to the growth of the whole vine, but merely a check to the rods likely to run away. The practice of tipping is coming into favor more and more each year, Mr. R. M. Voullaire, Jr., of Merbein, who first advocated the practice, has recently given lectures and field demonstrations in the Waikerie and Barmera areas, which were attended by a very large number of growers.—"Nemo."

To lengthen the life of a tin kettle, turn it upside down each night after use.

To remove dry paint from window panes if spilt when painting, rub gently with a penny.

INCREASING CONSUMPTION OF APPLE JUICE.

In order to develop the Apple juice business, America is making an effort to standardise this product, and it is on the high quality that a great deal of increased consumption can be expected, which will benefit the industry. In America in various parts of the east more and more Apples have been used for the juice, and the public, on account of its high standard, has been buying more and more freely. Roadside stands have been featuring this beverage, selling it in gallon glass jars.

Fruit which is chosen for this juice should be adequately ripe, taking care to pick varieties neither too sweet nor too acid. The fruitgrowers in Michigan have been clarifying and filtering cider to the greatest extent this past season. The Michigan method is as follows—A chemical called pectinol is added to freshly crushed apples at the rate of 20 to 30 ounces per 100 gallons. The pectinol is first mixed with a little warm cider or water in a jug and shaken at intervals for 20 minutes, and then strained through cheesecloth into the barrel or vat of cider. After the pectinol has done its work of breaking down and sedimenting the colloidal substances, the cider is ready for filtration. It is placed in a high mixing or supply tank into which hyflo filler aid is added at the rate of two or three pounds per 100 gallons. The Apple juice is then run through a tube into a three-inch muslin tube filter about 30 inches long. After the cider comes through it is allowed to go into the containers from which it is bottled or sold.

The value of good Apple juice is becoming better known chiefly on account of its appetising qualities and aid to digestion.—"Better Fruit."

FRIGOL—A NEW REFRIGERATING MEDIUM.

"Cold Storage," London, states that the refrigerating industry, and particularly the cold storage section, has long felt the need for a non-corrosive substitute to take the place of ordinary calcium chloride brine. The announcement of a new element called "Kilfrost," therefore, is of particular interest at the moment, inasmuch as experiments recently carried out by several well-known refrigerationists appear to back up the inventor's claim that "Kilfrost" is not only absolutely non-corrosive, but can also be used as a eutectic solution with perfect safety and economy.

"Frigol" is the name by which the new solution will be known to the refrigerating industry, and already a number of prominent firms manufacturing commercial refrigerators have interested themselves in "Kilfrost."

Fruit Trees
GOODMAN'S
Goodman's sell only one quality of Fruit Trees and Nursery Stocks—the very best that can be grown.
Buy Goodman's for perfect reliability and biggest profits.
First-class Trees sent any distance. 1933 Catalogue post free on request
C. J. GOODMAN
Picnic Point Nurseries, Bairnsdale, Victoria.
(W.McF.)

It is not yet too late to apply——————

Sulphate of Ammonia

The Cheapest
. . and . .
Most Effective

Dressing for Citrus Trees

. . also for all . .

Fruit Trees Lacking in Growth

APPLY THIS MONTH

Full Particulars from

Nitrogen Fertilisers
Proprietary Limited
360 COLLINS STREET, MELBOURNE, C.1.

FROST PREVENTION.

Success at Harcourt, Vic.

OF the 2,000 acres under fruit at Harcourt, Victoria, it is estimated that 1,000 acres are in the danger zone as regards frost. In some seasons the crops in the danger zone have been wiped out by frost.

Following some successful experimental work conducted by Mr. W. Eagle, orchard heating was accomplished by means of wood fires, the temperature of the orchard being raised several degrees on nights of heavy frosts. Wood fires, however, were found cumbersome, and in some near-by orchards, impracticable.

A new phase has now been entered owing to the enterprise of the Shell Company of Australia Ltd. After tests in other districts, Mr. W. Eagle, in co-operation with the Shell Company, completely overcame the frost menace by burning crude oil in galvanised iron bucket containers, the temperature being raised 10 degrees by using fifty orchard heaters to the acre.

The methods were fully described on November 27, when a demonstration was given at Mr. W. Eagle's orchard. There were present: Messrs. G. Paterson, T. H. Hartigan and H. R. McKeowon, representing the Shell Company; E. E. Pescott, Acting Chief Orchard Supervisor; C. French, Government Biologist; and —. Tomlinson, District Orchard Supervisor, Dept. of Agriculture (Vic.); H. Barkley, Assistant Director, Commonwealth Meteorological Bureau; local fruitgrowers, including Messrs. W. Eagle, Senr., W. Eagle, Jnr., C. A. Bertuch, W. E. James and H. M. McLean, and R. E. Boardman, "Fruit World."

Mr. Eagle gave a demonstration of the successful methods adopted. Representatives of the Shell Company stated that fuel oil could be landed at Harcourt at about 7d. per gallon; heaters cost 4/- each; the outside cost was about £7/17/- per acre. This could probably be reduced with the extension of the operations.

Mr. E. E. Pescott congratulated the Shell Company on its enterprise. On the basis of frost protection at the cost of 1/- to 1/6 per tree, this form of "insurance" appeared satisfactory.

Mr. Barkley described the incidence of frost, explaining that the area could be effectively warmed from ground level to the height of from 12 to 50 ft., according to the height.

of the "ceiling" of warmer air above.

Mr. and Mrs. Eagle were thanked for providing afternoon tea.

As a result of the experiments it is expected that a large number of orchard heaters will be installed in the coming season in Harcourt and other districts. Further details will be published next issue.

PRODUCERS' MOTOR VEHICLES.

Reduction of Registration Fees.

A Bill to reduce registration fees on motor vehicles used for the carriage of primary produce was passed by the Victorian Legislative Assembly on November 29. Mr. W. H. Everard, M.L.A., states that this Bill will provide some much needed relief for primary producers.

APPLE GIFT SCHEME.

The Australian Apple and Pear Export Council has cordially approved of the Apple gift scheme which has now been organised throughout Australia by the Melbourne "Herald" organisation.

The Governor-General, Sir Isaac Issacs, is giving support to the proposals.

Briefly, citizens, by paying 12/6, can have a case of the choicest Apples delivered to any address in England, Scotland, Wales or Northern Ireland. The fruit will go forward in one ship at a date to be arranged, possibly March. The name of the ship will be announced as early as possible.

In addition to securing direct distribution, the Apple gift scheme will have considerable advertising value.

ERADICATION OF BLACKBERRIES.

Experiences of New Zealand Farmer.

Mr. J. B. Monteath, of Hawkes Bay, New Zealand, writing to the "Fertiliser Record," says that his property was at one time badly infested in places with Blackberry. He experimented on a number of large bushes on different classes of land. He burned the bushes, and in order to clean them up properly piled some scrub and timber on the fires to ensure a clean burn. As soon as the ashes were cold he sowed some Cocksfoot, Chewings Fescue and a little Paspalum on the patches, and then gave them a liberal dressing of super at the rate of about four or five cwt. per acre.

He did not top-dress, any other portions of the land then, as he desired only those patches upon which he was experimenting to be specially attractive to the sheep.

Unfortunately, the Chewing's Fescue and Paspalum were old seeds and germinated very poorly. However, danthonia soon covered the patches, and there is now scarcely any trace of Blackberry where super was used. Bushes that were burned at the same time, but upon which neither super nor grass seed was sown, were in about two years as big as ever, and a striking contrast to those patches where the ground had been top-dressed.

In a closely grazed well-covered turf a Blackberry does not get a chance to grow so coarse that the sheep will not eat it. The super, of course, kept the sheep closely grazing these patches to the neglect of other portions of the paddock.

If making a Yorkshire pudding, it will be much lighter if made an hour or two before cooking.

Place a little salt in frying pan before frying eggs, and it will stop the fat from spitting, and will also help to keep the stove clean.

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CITY FRUIT MARKETS, SYDNEY

Mr. F. Chilton, Fruit Merchant, Sydney, remarks that with the limitation of varieties and sizes for export, it would appear that the Sydney market is likely, for the time being, at any rate, to receive portion of these fruits. He expressed the hope that growers would, in their own interests, set about reworking their trees to produce the varieties and sizes best suited to the Sydney markets.

Matters relating to improvements in the marketing of fruit are dealt with by the Fruit Merchants' Sectional Committee of the Sydney Chamber of Commerce, the President of which is Mr. L. J. Jenkins, and the Secretary, Mr. A. F. Bell (who is also Secretary of the Chamber of Commerce).

Mr. Jenkins is also chairman of the Export Committee of the Fruit Merchants' Section of the Chamber of Commerce.

Cold Storage of Apples.

(By W. J. Williams, F.C.S.(Lond.), Superintendent of Markets, Sydney.)

(Continued from November "Fruit World.")

Control of Humidity.

APPLES DO NOT WILT readily if they are packed properly, and there should be no loose room in the case, but there should be sufficient openings in it to permit an air circulation throughout the package. The air circulation, if the humidity is correct, will assist in keeping the Apples firm and prevent a deposit of moisture, which would cause moulds to develop.

Humidity can be controlled in various ways. If the humidity is too great, calcium chloride placed on trays in the room is the best method of overcoming this. Care must be taken to see that there is no water left about the rooms.

Ventilation is important, whether it be by direct ventilation from the outside or by circulation of air through a brine battery. Fruit gives off certain gases, and it is well that these should be removed regularly from the room. With air going through a brine circulation battery the advantages are great, insofar that the air will be kept fresh, clean and sweet. This will enable the fruit to go on in a natural condition, although by the aid of cold storage the process will be of a very slow nature, the slower the better, because this is one of the objects of cold storage.

Under such conditions as these the fruit itself should be delivered ex store in good quality, appearance, and should be just as the householder desires it, and the flavor should not be very different to what might be expected from fresh fruit.

To obtain an ideal condition in the cold storage room, it should be dry, clean and with plenty of slats on the floor, the temperature should be the best determined possible the same applies to humidity, and, above all, cases should be stacked with well-defined air spaces.

Proper arrangements should be made so that there will be a definite gentle air circulation throughout the room; careful handling of the cases will stop, that which is the greatest bugbear of the Apple storer, bruising. If these conditions are set down then the orchardist or merchant will have full confidence in placing fruit into cold storage in times of plenty for times of scarcity. Much education has yet to be done for the benefit of the orchardist as well as the storer, so that the fruit from the orchard can be delivered at the time it is required by the public in the best possible condition.

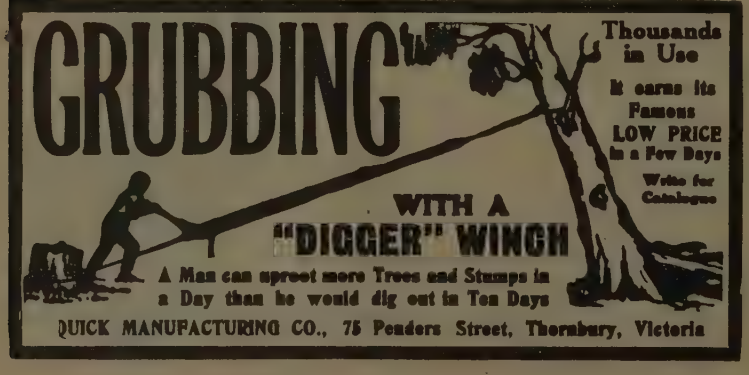
Cleanliness is next to Godliness, it is said, and this is so where foodstuffs are handled. The orchardist should always, on all occasions, advise the storer of the variety of Apple that he is storing, because of this fact there is, without any doubt, different conditions for different varieties, and the advice received from the cold storage expert should be invaluable in preparing fruit for store or for sea carriage over a long period.

The dryness of the room is very important, for with too much moisture we obtain moulds. The temperature and humidity vary, of course, with the various types of fruit that have to be handled from time to time, but for long storage Apples should be kept at 31 degrees Fah., with a constant humidity of 85 per cent., remembering always that temperature and humidity should be as constant as possible.

That important factor in the treatment of Apples is the temperature at which it should be kept. It must be remembered that Apples ripen or soften while they are in the cold store, and the nearer the Apple can be kept to a temperature of 31 degrees the better. From tests that have been made, the average freezing point of the Apple is 28 deg. Fah. It must be kept in mind that Apples ripen much more rapidly when the temperature ascends. For instance, at ordinary air temperature of 70 degrees the ripening rate would be double that of those Apples kept at 45 degrees in store. This single instance will show very definitely the advantages of cold storage over common storage.

There are other matters that are almost as important as temperature, and here the humidity must be seriously considered. The humidity of 85 per cent. is probably the best one, although some experiments proved that humidities up to 90 per cent., and even a shade over, did prevent a certain amount of wilting; however, with lower humidities, the water content of the Apple will be lost and the fruit will, undoubtedly, shrivel and lose weight. With a good brine battery attached to the cold storage room there should be no trouble with the humidity.

Certain tests have been made, showing the advantages of the admission of outside air into the cold storage room, and the circulation of air is of great value, keeping the percentage of carbon dioxide low, and it retards respiration, at the same time prevents accumulation of gases in the room. The best method of dealing with the gases, especially carbon dioxide, which is greater along the floor of the room, is to draw off the gases from time to time.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Apples should be stored so as to permit a free air circulation, and it has been found that by the use of slats or battens on the floor an air circulation will be beneficial in keeping the heavy gases which accumulate near the floor on the move.

It is a well-known fact that fruit ripens after it has been removed from the tree, taking in oxygen from the air and giving off carbon dioxide. The amount of carbon dioxide that is given off is relative to the temperature, the higher the temperature the larger the amount of carbon dioxide. There is a danger when no ventilation is provided in the cold storage room or no means of changing the air that the percentage of carbon dioxide will accumulate to such an extent as to cause Brown Heart to rapidly develop in the fruit. On no account should the percentage of carbon dioxide exceed 15 per cent. A great advantage in keeping carbon dioxide at a low figure is to see that all fruit is precooled.

Some experts have advocated the use of ventilating fans in the room, but these are not at all necessary if the more modern method of air circulation through a brine battery is used. This battery method will generally add a certain amount of moisture to the air, and will enable the humidity to be controlled to a certain extent.

Humidity has a decided effect on the weight of the fruit as well as shrinkage, and it is important that there should be no loss of moisture in the fruit. Shrinkage always takes place on the green side of the fruit first, and the appearance is immediately spoilt. A loss of moisture also means a toughening of the skin, which, of course, tends to spoil the Apple.

As fruit ripens in store there is an increase in the sugar content and a loss of acidity. This should be clearly taken into consideration, especially with that type of Apple that is of value to the public on account of its acid content.

Refrigeration should not be applied too quickly, and too much stress cannot be laid on the necessity of precooling, as already stated. The temperature of the room should be even throughout, and that is to say, that at any part of the room the thermometer should read the same.

Unwrapped fruit is more easily affected by variation of temperature in the room, hence the advantage of wrapping. The remarks under diseases in cold storage will clearly indicate the value of this particular process.

Proof has been forthcoming that, owing to the specialised breeding of Apples, the necessity has come about for scientific storage. The science of storage will take into consideration the lowest possible temperature that the fruit can be kept at without freezing. The temperature of the Apple on the outside of the case may have come down to 29 degrees, but that of the Apple inside the box will probably be one degree higher; if, however, the fruit is brought below the freezing point then injury is sure to occur, and this again is somewhat different with various types of Apples, even if they are wrapped or unwrapped. If fruit has been definitely frozen, then the Apple taken out of the box into the fresh air will become brown, and within a day or two will be rotten, or, in other words, the life of the fruit has been destroyed.

Cold storage retards, delays and prevents disease taking place in the Apples, provided, of course, the conditions set down are right and the fruit itself is without blemish. The life of the different varieties of Apples must come to an end, and cold storage is the best means of lengthening the life of the fruit.

(To be Continued.)

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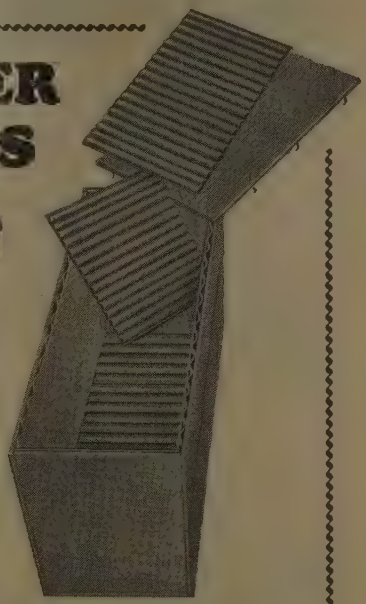

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THE COMMERCIAL TRADE PORT FOR THE PACIFIC AND EASTERN TRADE.

The Sydney Markets.

Much Needed Improvements to be Made.

IN ORDER TO RELIEVE the serious congestion in the Sydney Market the City Council has decided on an extension programme.

An area of land, four acres in extent, bounded by Hay-street, Quay-street, Harbour-street and Lit. Pier-street, has been selected for the new vegetable market. A short Act of Parliament is necessary to put the title deeds in order. It is expected that this Act will be quickly put through Parliament; meanwhile, anticipating the speedy passage of this Act, the Council has drawn plans for the extended markets, and tenders for construction will be called for at the earliest opportunity.

The new Queen Victoria Markets, Melbourne, have been selected as the model on which the new Sydney vegetable market will be constructed; facilities will be provided for 530 growers' stands.

By the erection of this new market, there will be a re-allotment of the space in the present markets. Vegetable growers are to be transferred to the new market, and the spaces previously occupied by them will be used by salesmen of other produce.

The present produce market is to be made available to those engaged in the country order business. The present vegetable market will be converted into two markets, one to be allotted to fruit agents and the other part to vegetable agents (as distinct from vegetable growers). The markets will be connected with the railway, so that heavy goods will have direct rail facilities into the market.

Drawings are being prepared in detail. The Council will be ready to call for tenders immediately the Act goes through. The necessary financial arrangements have already been made by the City Council.

The new markets will occupy land worth £100,000, and the buildings will cost £130,000. No fewer than 18 small streets will be done away with, while new and wider streets will be constructed. When completed, the Sydney fruit and vegetable markets will cover 20 acres.

* * * * *

While the foregoing extensions are under consideration, it cannot be denied that there is much dissatisfaction among growers and agents because of the present congested and insanitary conditions.

On market mornings the scene of confusion in the market buildings baffles description; the congestion is almost beyond belief.

Then again, there are vegetable growers who are unable to secure stands in the present market building, and these have to unload their produce in the adjoining street, and sell from the footpath. No shelter of any kind is provided, and when the business has to be done in the pouring rain the conditions are deplorable.

Vegetable growers have to pay rent for these street "stands." The conditions are so insanitary that it is a wonder the Health authorities have not launched a prosecution.

The congestion in the fruit market is equally troublesome. Fruit agents are unable properly to display the produce, the facilities for marketing are primitive, and reminiscent of an Eastern bazaar. Growers are aware that these inferior marketing conditions are inimical to their interests. Rents are high, and such, again, have finally to be borne by the grower.

It is no wonder that growers and agents are looking forward with keen anticipation to the relief promised by the erection of the new vegetable market, and the hope is most earnestly expressed that the arrangements will be speedily concluded.

* * * * *

The interests of the man on the land are the first consideration. Without prosperous country districts the whole community fails. Rural stability is necessary for the upbuilding of Australia. In this connection, the fruit-grower deserves prompt and efficient attention at the hands of those responsible for marketing facilities. It is a thousand pities that the value of fruit should suffer by reason of inefficient marketing facilities in the most important city in the Commonwealth.

* * * * *

The annual dinner of the Wholesale Fruit Trade of New South Wales (under the auspices of the Fruit Section, Sydney Chamber of Commerce), was held at Tattersall's Club, Sydney, on November 11. In the unavoidable absence of the retiring president (Mr. W. J. Sinclair), the chair was taken by Mr. L. J. Jenkins.

The toast of "the fruit trade" was proposed by Mr. P. S. Macdermott, and responded to by Mr. F. Chilton.

The toast—"Retiring Chairman of Fruit Section" (Mr. W. J. Sinclair), was proposed by Mr. J. Blick, and responded to by Mr. L. J. Jenkins.

* * * * *

In a recent interview, Mr. L. J. Jenkins (John Jenkins and Son), City Fruit Market, Sydney, states that the 2½-inch Apple is not so popular as previously as the 2¾-inch Apple is now included in the 1/- per doz. size as sold by retailers. Apart from Granny Smith, Sydney preferred red Apples for dessert.

Owing to delays in deliveries by boat, and the consequent missing of markets, better service was received in the sending of Victorian consignments by rail.

Major Dakin, chief representative in Australia for Geo. Monro Ltd., has been indisposed, but is on the mend again. We wish the Major a quick recovery.

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DEATH OF M. N. WALTERS.

It is with deep regret we learn of the death of Mr. M. N. Walters, formerly of the Sydney Fruit Markets. Mr. Walters passed away on November 5, and was buried at Chatswood Cemetery. Residents of Ryde, Kogarah, Blackheath and Doncaster (Vic.), sent many floral tributes, for Mr. Walters was well known in these districts. Former associates at the Fruit Market also sent flowers and attended the funeral, which left his son's residence at Mosman.

Mr. Walters established his business as a merchant at the Fruit Exchange, Sydney, in 1890, and throughout his long association with the fruit trade was respected by all who came in contact with him. His interstate business was a large one. Mr. Walters was 70 years of age, and leaves a daughter and two sons to mourn his loss. Mrs. Walters predeceased him by six years.

The N.S.W. Fruit and Vegetable Agents and Merchants are actively at work to improve the conditions of marketing in Sydney. The president is Mr. A. C. Ward, and the secretary, Mr. H. W. F. Rogers.

Appreciation was expressed in Sydney for the type of organisation represented by the South Australian Fruit Marketing Association, the Victorian Fruit Marketing Association, the N.S.W. Apple and Pear Export Association, and the Australian Apple and Pear Export Council, i.e., in the fact that both growers and traders sit on the same executive, and thus discuss matters of mutual interest affecting export.

The hope was expressed that local marketing matters might be dealt with by a similar type of organisation, i.e., growers and merchants sitting on the same executive to deal with improvements which are possible in local marketing.

Mr. J. W. Blick, manager of the fruit department, Producers' Distributing Society, Sydney, who was recently abroad studying fruit marketing conditions, is convinced that more Australian fresh fruit could be consumed in the Near East if shipping facilities were provided. He urges that shipping companies provide chambers capable of holding 1,000 to 2,000 cases of fruit, and for these chambers to be so conveniently placed that they can be unloaded when ships call at Colombo, Aden, Port Said and other ports.

The attention of shipping companies has been directed to this matter, and the hope is expressed that this request for shipping facilities will be acceded to.

ASSOCIATED SELECTED REPRESENTATIVES.

The annual dinner of the Associated Selected Representatives working under the aegis of the Tasmanian State Fruit Advisory Board, was held at Adam's Cafe, Sydney, on November 15. Mr. A. J. Cooper presided.

There were also present: Messrs. Merton Calvert and A. J. Honey (Tasmanian S.F.A. Board), W. Garfield Roughley, H. W. F. Rogers, W. Musgrove, C. Robards (Australian Fruit and Produce Co.), E. A. Jenkins (John Jenkins and Sons), E. G. Terry, E. Hay, N. Theissen, A. Firth, F. Chilton, H. S. Southcott, J. Jolly, S. H. Pogson, E. Lawless and K. E. V. Rogers.

The amicable relationships existing between the Tasmanian S.F.A. Board and the Sydney representatives were emphasised in the speeches made. It was stated that the Tasmanian growers appreciated the valuable work which had been done in Sydney on their behalf by their selected representatives.

As a token of appreciation, presentations were made to the Executive officers of the Associated Selected Representatives:—Messrs. A. J. Cooper (President), W. G. Roughley (Treasurer), and H. W. F. Rogers (Secretary).

Mr. W. Musgrove, of the Sydney Fruit Markets, recently visited the Goulburn Valley and was impressed with the methods adopted by growers to produce a good class of fruit. An increased quantity of summer fruits from this area will be marketed in Sydney this season.

Mr. E. Johns, of the Australian Fruit and Produce Co. Ltd., Sydney Markets, has returned from a tour of Victorian and Tasmanian orchards. He also visited Queensland at the end of November.

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"Fruit World Annual"
Comprehensive review of Australian and New Zealand fruit industry.
"The Fruit World," Box 1944 G.P.O., Melbourne.

New South Wales.

Sydney (27/11/33).—The market representative of the Fruitgrowers' Federation of N.S.W., writes:—Apples: Crofton 5/6 to 8/6, Demo. 5/6 to 10/-, Del. 5/6 to 9/-, French Crab (Tas. green) 6/- to 11/-, G. Smith (N.S.W. green) 10/- to 20/-, G. Smith (plain and colored) 9/- to 15/-, Rokewood 5/6 to 7/-, Sturmer Pippin 4/- to 7/-, Yates 6/- to 10/-; Pears: (retail), Broome Park 7/- to 11/-, Jos. 6/- to 14/-, few 16/-; 8,000 cases of Apples are arriving from Tas. to-day and 5,800 from Vic. Demand has been only steady for interstate fruit, but G. Smith from local sources have improved. Apricots: local 3/- to 5/- half, inland 3/6 to 5/- half, special to 7/-; Bananas: N.S.W. 15/- to 22/-; Qld. 13/- to 15/-; Norfolk Island 10/- to 14/-. Cherries: Young: Florence and Margarets 4/6 to 5/6, Napoleon 3/6 to 4/6, others 2/6 to 3/6; Orange: Early Lyon 2/6 to 3/6, others 2/6 to 3/6. Grapefruit, N.S.W. 4/- to 7/- bush., special Marsh's Seedless 8/- to 12/- bush.; Lemons, N.S.W., local 4/6 to 9/-, inland, cured and Mangrove 8/- to 11/- bush.; Navels, N.S.W. special and standard 8/- to 10/-, special to 14/-; Oranges: Val. 4/- to 7/-; plain grades 2/- to 3/6; Gooseberries, Young 3/- to 3/6 per quarter; Tas. 5/- to 6/- half; Mangoes (Qld.), Turnpentine 6/- to 7/- bush.; Plums 2/6 to 5/- half; Papaws 6/- to 10/-, few higher; Peaches 4/- to 7/-, few higher. Increased quantities arrived to-day and fruit which sold at 9/- to 11/- early in the morning was later offered at 4/- to 7/-; Pineapples: Qld. 8/- to 10/-, few higher; Passionfruit, Qld., 10/- to 15/-, few 20/-; Banana Passionfruit 5/- to 12/- half; Strawberries (N.S.W.) 2/- to 5/- tray.

Batlow.—The Apple and Pear crops are patchy, very good to light. We estimate the coming crop at about 70 per cent. of last year's record crop.—A. E. Herring.

West Australia.

Perth (17/11/33).—Apples: Statesman, dumps, 10/- to 11/6; Yates, 10/- to 14/-; G. Smith, 11/- to 17/-. Citrus: Oranges, plain, flats, 3/- to 6/- (special to 7/-); dumps, 6/- to 8/- (special to 9/-, others from 4/6); Navels, 4/- to 8/- (special to 9/-), 8/- to 12/- (special to 14/6, others from 5/-); Lemons, 5/- to 8/6 (special to 13/-, others from 3/6); other lines: Passionfruit, half bushels, 14/- to 20/-; Tomatoes (Geraldton), 6/- to 14/- (special to 18/-, inferior from 2/-); local, 10/- to 25/- (special to 26/9, others from 8/-); Loquats, 6/- to 12/- (special to 14/3, others from 4/-).

Queensland.

Brisbane (27/11/33).—Local fruit: Pineapples, smooth-leaf, 4/- to 7/6 case; rough-leaf, 7/- to 9/-; Oranges, 4/- to 8/6 case; second crop, 2/- to 4/-; Mandarins, 4/- to 11/-; Lemons, 5/- to 8/- case; Grapefruit, 5/- to 6/- case; Mangoes, Northern, 5/- to 8/- case; Papaws, 6d. to 2/6, special 3/-; Passionfruit, No. 1 quality, 8/- to 11/-, No. 2 quality 5/- to 7/-. Imported fruit: Apples, STP. (Tas.) 5/- to 8/-, Vic. 7/- to 9/-; faulty, 4/- to 6/-; RB., 7/- to 9/6; Demo., 9/- to 11/-; French Crabs, 6/- to 11/-; Yates, 4/- to 11/-; Statesman, 6/6 to 9/-; Jon., 4/- to 7/-; choice, 10/- to 11/-; G. Smith, 14/- to 16/-; Del., 6/- to 10/-; Pears. WN., 9/- to 13/-; BU., 7/- to 13/-; Oranges, Val., 6/- to 8/-; Lemons, Vic., 8/- to 10/-; Cherries (Qld.), 4/- to 9/-; imported, 5/- to 7/-; wet, 2/- to 4/-; Apricots (Warwick), 6/- to 10/-; Southern, 3/- to 7/-; Peaches, local 2/- to 5/-; Stanthorpe 2/- to 4/6 tray; 4/- to 8/- half bushel; Plums (N.S.W.), 5/- to 8/-.

PALESTINE WANTS AUSTRALIAN FRUIT.

A request from a Palestine firm of fruit merchants for quotes regarding Australian fruits was recently received in Sydney. In their letter, the Palestine firm made a statement that is very interesting. The influx of foreigners during the last few months, they stated, had been enormous. The majority of the immigrants were Jews from Germany, driven out of Europe by the treatment meted out to them by the Hitler regime. The big increase of population has opened up new markets for fruit not grown in Palestine, hence the request for Australian fruit prices. Palestine produces large quantities of citrus, Grapes and Figs, but Apples and Pears have not yet been grown successfully, and it is these fruits that are in demand at the present time.

Fruit exporting interests in Australia are seeking steamer facilities to develop this trade.

Hamburg and Bremen.—Messrs. Parnham Pty. Ltd., fruit exporters, of Queen-street, Melbourne, advise that the old-established firm, J. H. Lutten & Son, fruit brokers, of Hamburg, have opened premises in Bremen for handling fruit importations.

MARKETING IN ENGLAND.

An addition to the firms in England handling consignments of fresh fruit on behalf of Australian producers is the well-known firm of Messrs. D. & W. Murray Ltd., London. This firm has a special department for the handling of Australian products, and they have appointed as their agents in Australia The Australian Clearing Co. Pty. Ltd., 360 Collins-street, Melbourne. Mr. Chilvers, the managing director, has been in England this year studying marketing conditions and arranging co-operative action to ensure the successful handling of goods upon their arrival.

Oranges for New Zealand.—The s.s. "Wainui" sailed for the Bluff from Melbourne with 6,000 cases of Oranges on November 29. The "Wanganella" left the same day with 5,000 cases for Auckland. The last shipment of South Australian Oranges to leave Australia for New Zealand this year will be conveyed by the s.s. "Monowai" in December.

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Victoria.

Melbourne (1/12/33).—Prices quoted yesterday by the Wholesale Fruit Merchants' Association were:—Apples (per case), eating, to 6/-; cooking, 4/- to 5/-, special higher. Apricots, 8/- to 12/- half case. Bananas, Qld., double case, green, 8's and 9's, 17/- to 18/-; 7's, 15/- to 16/-; 6's, 12/- to 14/-; few special higher. Cherries, 5/- to 7/- half case; inferior lower. Lemons, 3/- to 6/- case. Navel Oranges, Vic., best districts, 5/- to 8/-, others 3/- to 6/-; Sth. Aus., to 10/-. Oranges, Val., best districts, 6/- to 8/-; few special to 9/-; other districts, 4/- to 6/-; small and green, almost unsaleable. Grape Fruit, 5/- to 9/-; special higher. Peaches, 7/- to 14/-. Pineapples, double case, 8/- to 11/-; few special higher. Papaws, 6/- to 8/- double case; sound fruit higher. Tomatoes: Sth. Aus., 12/- to 13/- half case; Qld., 4/- to 6/-; ripe fruit, repacked, 8/-, few higher, half case. Local, 16/- to 20/- a case.

The Melbourne market manager of the Federal Citrus Council of Australia reports that small Val. are not in demand. Sales yesterday were as follow:—Val., average standards, 96-112, 5/-; 126-168, 5/-; few to 5/6; 182, 4/-; 200's and smaller, to 3/-; pale or green lower; selected unwrapped grades, counts 126-168, 7/- to 8/-; 200, 6/-; 248, 5/-; smaller difficult of sale at 4/-. Good M.I.A., to 66/6 and 7/6, best counts; specially selected wrapped grades, 8/- and 9/-, best counts. Grapefruit: Average standards, 7/-, best counts (53-68); Plains, to 6/-; selected unwrapped standards, to 9/-; a few specially selected Curlwaa wrapped to 12/-. Lemons, average standards, 4/- and 5/-, best counts; selected standards, to 6/-, a few 7/-. Navel Oranges: Average standards, Vic., in good condition, 4/- to 7/-, according to count; faulty lower; selected wrapped standards, 5/- to 10/-, a few 11/-.

TOMATO CULTURE.

Effects of Fertilizers and Rotation of Earliness and Total Yields of Tomatoes.

SOME VERY INTERESTING STUDIES in Tomato culture have recently been conducted in U.S.A. The results are included in a bulletin recently to hand from the N.Y. Experiment Agricultural Station, Geneva, N.Y. This contains a report of six years' results of an experiment comparing 18 ferilizer combinations for Tomatoes in a single crop system and in a four-year rotation. Each treatment was replicated three times, and results were measured by the differences in field yields of Tomatoes. The effect of each treatment was determined by comparing its yield with the yield of check plots on each side. Crop response to each treatment was measured in its effect on early, mid-season, and total yields.

Phosphorus was of greatest importance in increasing both the early and total yields of Tomatoes. Nitrogen was second in importance and potash was third. The best results were obtained using a complete fertilizer high in phosphorus. The Tomatoes responded profitably to liberal applications of fertilizer.

Rotation was very important in maintaining Tomato yields. Moderately high analysis fertilizer compared favorably with a very concentrated form. Manure proved an excellent fertilizer for Tomatoes. The best results, especially for early yields, were obtained by supplementing the manure with commercial fertilizer high in phosphorus.

Seasonal conditions and time of transplanting proved to be important factors in total yields and early yields, respectively.

Conclusions and Recommendations.

Yields of Tomatoes varied greatly in the different years of this experiment. These seasonal differences were due primarily to variations in temperature, rainfall, and frost-free periods. However, a good rotation and the proper use of fertilizers were important factors in maintaining high average yields of Tomatoes.

A rotation for Tomatoes should include a legume crop every four years. Cover crops also should be turned under whenever possible to help maintain the organic matter content of the soil. A good rotation is essential for a permanent system of truck farming or of canning crops production. The following four-year rotation proved very satisfactory, and has maintained the yields of Tomatoes: First year, Tomatoes followed by rye cover crop; second year, snap beans followed by rye cover crop; third year, beets; and fourth year, cannery peas followed by a sweet clover cover crop. A cover crop of rye may also follow the beets the third year, but its use would depend on whether spring or fall ploughing is preferred for the peas. The sweet clover following the peas is turned under the following spring for Tomatoes. This rotation provides a cash crop every year, a legume green manure crop, and two or three cover crops of rye. Sweet corn, cabbage, or many other crops might be substituted for any of the crops in this rotation.

Phosphorus is the principal limiting element in Tomato growing on most soils. Applying readily available phosphorus fertlizer results in a very marked increase in early yields and in total yields of Tomatoes. Nitrogen appears to be second in importance in increasing yields of Tomatoes. A profitable increase in yield may be expected where readily available nitrogen is applied in connection with phosphorus fertilizers. Nitrogen fertilizers applied in reasonable amounts will not retard maturity, but will stimulate the early growth and maturity of the crop. On most soils potash is most likely to be third in importance as a limiting fertilizer element in Tomato production. Consequently, the best results from potash fertilizers can only be obtained when nitrogen and phosphorus have been added in sufficient quantities to correct the limiting effect of these elements. Under these circumstances, however, potash may be used profitably on Tomatoes.

A complete fertilizer high in phosphorus gave the best results in this experiment, and is generally recommended. A 4-16-4 formula proved very satisfactory. The results of these fertilizer tests comparing differing amounts of nitrogen, phosphorus, and potassium, gave a fairly definite idea of the best proportion of these three fertilizer elements for Tomatoes on most soils. Under most cir-

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cumstances a fertilizer well adapted for Tomatoes should contain from 4 to 8 per cent. of readily available nitrogen, 12 to 16 per cent. of readily available phosphorus, and 4 to 8 per cent. of readily available potassium. Fertilizer combinations within these limits would undoubtedly give excellent results with Tomatoes on all the important soils in this State. In general, a 4-16-4 or a 4-12-4 ratio is recommended.

Tomatoes respond profitably to liberal fertilization. At least 1,200 pounds per acre of 4-16-4 or a similar high analysis fertilizer is recommended for market garden Tomatoes. Liberal fertilization has a very marked effect in increasing early yields, which are the most profitable to market gardeners. From 600 to 1,200 pounds per acre of 4-16-4, or a high analysis fertilizer closely approximating this ratio is recommended for Tomatoes for canning factories. Increased yields resulting from the use of fertilizer will lower the cost per ton in growing Tomatoes. A grower with limited funds for fertilizer will probably obtain a larger net return by reducing his acreage, if necessary, and applying an adequate amount of fertilizer per acre.

Early yields of Tomatoes and also total yields are markedly affected by the time of transplanting. In general, the earlier Tomatoes can be transplanted to the field without danger of frosts, the earlier will be the harvest and the larger the total yields.

The limited data available indicate that from the standpoint of equivalent amounts of plant food a moderately high analysis fertilizer is slightly better than a very concentrated form of fertilizer.

However, the use of very concentrated fertilizers results in some saving in freight and handling costs, and this factor should be taken into consideration in determining the value of these very concentrated fertilizers.

Manure is an excellent fertilizer for Tomatoes. It should be well rotted and should be ploughed under at least two weeks before time to set the Tomatoes in the field. Supplementing manure with a complete fertilizer high in phosphorus or with a fertilizer containing readily available phosphorus alone is recommended. This will give additional increases in yields, more particularly in early yields.

BROWN ROT IN PEACHES.

The Northern Victoria Fruitgrowers' Association is to be congratulated on its enterprise in endeavoring, in co-operation with the Department of Agriculture and the Goulburn Valley Canneries, to discover control measures for the brown rot in Peaches. Experiments are being conducted by Mr. S. Fish, Assistant Plant Pathologist, Department of Agriculture, at the orchard of Mr. H. E. Pickworth, Ardmona.

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WEARING PARTS OF AGRICULTURAL IMPLEMENTS AND MACHINERY.

Need for Standardisation.

The Agricultural Bureau of Tasmania has made a survey of the position in relation to the wearing parts of agricultural implements and machinery, and it was found that under the present system adopted by manufacturers costs are increased and the efficiency of working land is seriously impaired. At the recent meeting of the State Council of the Bureau, a resolution was passed that the Executive continue to bring about the standardisation of wearing parts of agricultural machinery, and as no progress has been made in the negotiations with manufacturers, it is suggested that a case be prepared and sent to all producers' organisations in the Commonwealth, and that they be asked to invoke the aid of the Federal Government, through their parliamentary representatives, to make standardisation compulsory, or failing this, that duties be abolished on all implements, the parts of which are not standardised. The value of implements and machines used mainly for agriculture in Australia is £36,800,000. This does not include travelling machines or machines used on pastoral holdings and dairy farms which are valued at approximately £17,000,000. In addition to this, the average annual factory value, not the retail price, of the output of agricultural implement works during the past five years was £2,800,000. This information is sufficient to convey the necessity for combined action of producers throughout Australia to endeavor to remedy a costly system. It is suggested that standard parts be adopted for stripper harvesters and reaper threshers, reapers and binders, mowers, seed drills, springtooth cultivators, ploughs, harrows, and bolts and nuts. All this machinery shows a diversity of patterns, and it is necessary to standardise them so that all parts will be uniform.

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SUMMER SPOT OF PEARS.

Experiments being conducted by the Victorian Department of Agriculture have shown so far that the most promising method of control for summer spot of Pears consists of two pre-blossom sprays of Bordeaux mixture, followed by a half strength Bordeaux as a fruit-cover spray.

Under an arrangement made with the Southern Victorian Fruitgrowers' Association, these experiments, which were commenced in 1932, are being conducted on the orchard of Mr. O. A. Leber, at Doncaster East. At a recent inspection of the experiments, members of the Committee of the Association expressed satisfaction with the progress of the work and with the extensions made this year. At present thirty different schedules are being applied over five main varieties of export Pears, each schedule being designed in an effort to improve on the finding of the first year. A noteworthy feature has been the introduction into the tests of a new fungicidal material which, in addition to showing promise of controlling the spot, has the advantage that it does not cause russett on even the most susceptible varieties of green Pears.

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The Best Commercial Varieties.

FOR COMMERCIAL STRAWBERRY growing, only two or three varieties are worth considering, states the N.S.W. Dept. of Agriculture.

The Strawberry mostly in demand is one that is firm and large, of a good crimson red color, and one that holds well after being picked. Flavor, productiveness, susceptibility to disease and time of ripening must also be considered. There is a heavy loss from sunscald of varieties that do not provide sufficient foliage to shade the fruit. Another factor is the nature of the blossoms, whether perfect (staminate) or imperfect (pistillate).

Creswell's Seedling came into prominence about 1895 and at the present time is the chief variety grown in the Ryde district of N.S.W., an old Strawberry-growing district of N.S.W. The chief varieties grown in the Sydney suburban area are Creswell's Seedling and Fendelcino. Fendelcino's blossoms are imperfect (pistillate), and it is therefore necessary to plant a perfect early-blossoming variety in conjunction with Fendelcino. The varieties most suitable for pollinating Fendelcino are Port Macquarie and Rhodes' Special, one line of which is planted to three of Fendelcino. Mason's Immense, a new variety raised at Narrabeen, has also given satisfaction as a pollinator for Fendelcino. Fendelcino commences to ripen its first crop earlier than Creswell's Seedling. Port Macquarie and Mason's Immense produce superior fruit, and are hardier plants than Rhodes' Special.

The planting of either Creswell's Seedling or Fendelcino is recommended, according to locality. Along the North Shore line Creswell's Seedling is favored, though some exceptionally nice crops of Fendelcino may be seen where suitable varieties have been used for pollinating purposes. Around Parramatta, Fendelcino is preferred. It must be added that Fendelcino is seldom grown on for the second year. The fruit produced the first season is much larger and yields generally heavier than obtained from second-season plants.

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DEFICIENCY DISEASES OF APPLES.

Some Signs of Soil Poverty.

Various abnormal conditions in Apple trees in the Stanthorpe (Qld.) district have been traced to soil deficiencies. They may or may not be accompanied by general unthriftiness, and may puzzle a grower who is not familiar with the causes.

Dieback of the young growth, if not definitely due to powdery mildew, is generally caused by soil poverty and neglect. The remedy for this trouble is hard cutting to stimulate growth, together with good cultivation and manuring. If the trees are badly affected, it is probably not worth nursing them back to health, and they should be cut back to the main limbs and reworked or even dug out. In Delicious, and occasionally in Jonathan, soil poverty produces small blisters up to an eighth of an inch across on the bark; the growth of the tree also becomes noticeably poorer. Some growers have mistaken these blisters for San Jose scale, but on cutting into them it is clear that they are part of the bark. If a proper system of fertilising and green manuring is adopted, the trees will become healthy and in a few years the new wood will be normal.

A disease which has been called "false fireblight" may also cause some anxiety on the part of the grower. Elongated cracks (up to about two inches long) of a reddish color appear on the wood, and the tree grows quite vigorously till it is five of six years old. Just as it is coming into profitable bearing, the growth slows down. As a remedy for this, spraying with Bordeaux when growth begins in the spring and again when it is most rapid (i.e., about Christmas time), has been recommended; one grower, however, completely cured it by chipping in a pound of sulphur around each tree.

Leaves often show an irregular yellowing; this seems to be due to a lack of iron in the soil, and may be remedied by applying sulphate of ammonia. Apparently this fertiliser brings the iron in the soil into a form available to the trees. Marginal leaf scorch, which may be suspected of being a fungous disease, is due to lack of potash, and the remedy is obvious. Although they do not obviously reduce the vigor of the tree, these leaf troubles indicate that the soil is lacking in something needed for normal growth, and the deficiency must be made up before the grower can be sure that he is getting the best out of his trees.

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